Building Services News

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# Irish H & V News

IRISH H&V NEWS

JANUARY/MARCH 1986 IRELAND'S BUILDING SERVICES MAGAZINE

# Sanbra Fyffe Reverts to Irish Ownership

The changing fortunes of Sanbra Fyffe took a turn for the better recently with the announcement that the buy-out of the company from the Delta Group had finally been concluded by a consortium led by Managing Director John Darrcy.

Since 1980, with the progressive downturn in the construction industry, Sanbra Fyffe — in line with other suppliers to the building sector — have suffered at the hands of the 40% plus decline in the market. Perhaps Sanbra Fyffe suffered even a little more than their competitors because of their high manning levels and "more established" production procedures.

Efforts had been made in recent years — through the introduction of new manufacturing techniques and a rationalisation plan in terms of numbers employed — to alleviate the problems being experienced but these measures only served to postpone the day of reckoning.

Obviously, the Delta Group, with its 89% shareholding, was not prepared to see the decline in the company's fortunes continue indefinitely. So, after looking at a number of options and having had some protracted negotiations, they eventually agreed to the management buy-out. This was not the solution they favoured but, in view of the strong case presented by Mr Darcy and his colleagues, they finally conceded.

• *John Darcy, Managing Director, Sanbra Fyffe.*

Once the buy-out was concluded, the new owners embarked on a further rationalisation plan with the result that, while the workforce is now at a reduced 125, short working time has been eliminated and there is a more positive attitude throughout the entire factory.

The full range of Irish instantor compression couplings IS239:1980 will continue to be manufactured at Santry as will an expanding range of underground fittings in gun metal. CP brassware will continue to be supplied, both the conventional cross-head range, and a replacement range for Eirline which will be marketed under the same name. Present factored lines will continue to be handled and it is hoped to increase this part of the business. It is planned also to develop exports further.

## Walker 'Buy-Out'

• *Jim Anderson, Managing Director, WAC Ltd. Next month we will have an in-depth interview with Mr. Anderson on the details behind the directors 'buy-out' of Walkers which was first reported in Business & Finance magazine in the middle of last month.*

## Copper Cylinder Row Erupts

A large-scale row is underway within the copper cylinder manufacturing sector at present with more and more producers coming into the fray and inadvertantly introducing sub-standard and possibly dangerous units onto the marketplace.

The problem began before Christmas with one manufacturer launching a new cylinder which sold for approximately £4 less than most of his competitors. Following trade reaction, this cylinder was tested by the IIRS and found to have a body thickness of 0.5mm, making it totally unsuitable for the maximum head of 10 metres. It also means that it does not comply with IS 161 which states that the minimum value permitted by the Standrd for cylinder thickness is 0.602mm.

The cylinder in question did, at the time of testing, bear the manufacturer's marking and also a lable indicating that it was suitable for 10 metre head use in addition to suggesting that it complied with IS 161 1975.

Since the test results were confirmed, the IIRS has been in touch with the manufacturer concerned and, while the label notation has been altered, the cylinder is still being produced and sold on the marketplace.

Given that price is a key factor in all purchasing areas, it's somewhat understandable that the cylinder in question has a ready market. Given that scenario, it is even more understandable that another

• *Continued on Page 36*

• *Eoin Kenny, Vice-President, CIBSE (right) with the President – Elect of ASHRAE, Fred Kohloss, discussing plans for the forthcoming International CIBSE/ASHRAE '86 Conference which will be held in Trinity College, Dublin, next June. (See Page 24)*

## Get Yours Every Month!

**In line with our wish to better serve the building services sector — and as an indication of our confidence in the future of the H&V industry in general – *Irish H&V News* will be returning to monthly publication from the April issue.**

**Packed with our usual regular features — Face To Face; Other Side of ...; NI Review; Product Reviews, etc — we will also begin a new series of Project Profiles.**

**The first building to come under our investigative scrutiny will be the Blackrock Shopping Centre. We examine both the mechanical and electrical services installation and assess the design criteria employed by the consultants.**

**Be sure that you're getting your very own personal copy every month.**

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# FLUE RANGE

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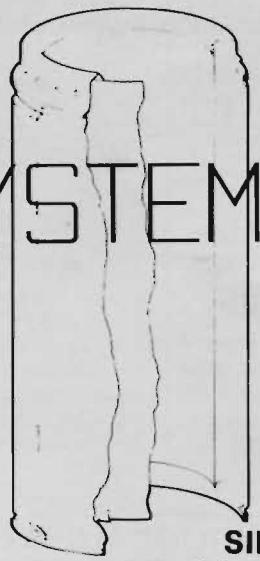

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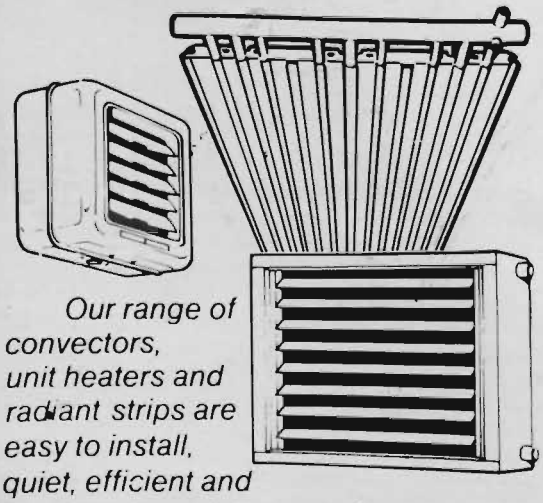

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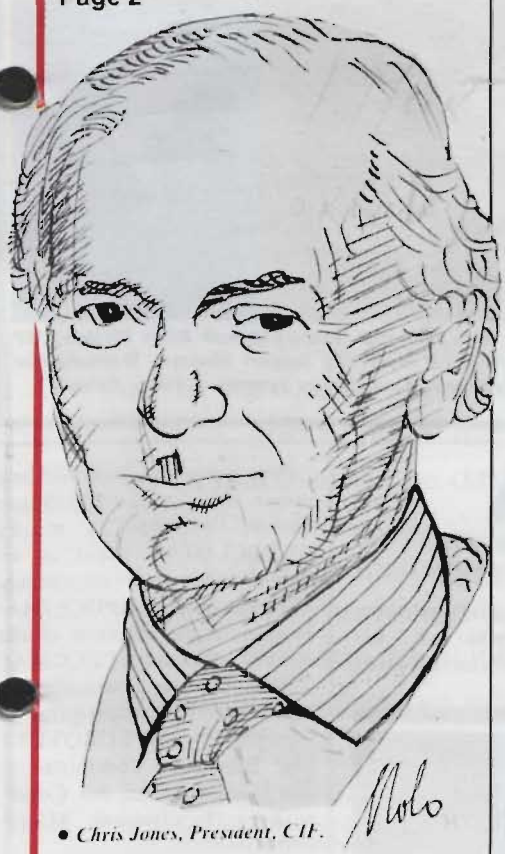

• *Chris Jones, President, CIF.*











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IRELAND'S BUILDING SERVICES MAGAZINE

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ABC

• *At the Grundfos "Open House" for consultants were Tony Hogan, J V Tierney; Eamonn O'Brien; Jimmy Cullen, J. V. Tierney; and Tom Egan, Department of Health.*

# Dunsley Heating Acquire Oxypic

DUNSLEY Heating announce the purchase of the formula and complete manufacturing rights of OXYPIC sealant. OXYPIC (invented by H Pickup, inventors of another brand leading name, ie Harpic) is a well-established sealant and inhibitor for boilers and heating systems.

On the market for well over 50 years, OXYPIC has a first-class reputation in the plumbing and heating trades, both commercial and domestic. Over the years, the formula has been developed and refined with new additives to guard against rusting and scaling in addition to its leak-sealing properties.

The introduction of OXYPIC is a major purchase for Dunsley Heating and is yet another development in a range of forthcoming plans for diversification in 1986. Since the new management take-over in April of last year, the new board has introduced four new major product lines — each one destined to be a brand leader of its kind.

# Mather & Platt Name Change

MATHER & Platt, fire protection engineers, will in future trade under the name Wormald Fire Systems. This was announced at a reception in Jurys Hotel, Dublin on 27 November last.

Mathew & Platt (Ireland) Ltd. has been established in Ireland for 80 years and has provided fire protection installations in most major Irish industries, and all ESB, generating plants including Moneypoint.

The company is part of the Wormald Group which has a turnover of £500m and employs 17,000 people worldwide.

At the reception Barry Shearman, Sales Director, Mather & Platt said, "Not withstanding the name change Mather & Platt will maintain its identity and retain its own Irish company image". Wormald is the world's largest fire engineering company and trades in seventy countries.

• *Pierce Boyce, Irish Industrial Tanks Ltd. with Brian McHale, MP Alarms; Ken Bishop, FE Marketing Support Manager, Wormald Fire Systems and John Dwyer, Wormald Fire Systems, Northern Ireland.*

# EXPOCLIMA

## First International Show at the Brussels Exhibition Centre ... 3-7 November 1986.

FROM 3 to 7 November 1986, Halls 4, 5, 6 and the Patio of the Brussels Exhibition Centre will be hosting EXPOCLIMA, the European Fair for refrigeration, heating, ventilation, air conditioning, vacuum cleaning and drying.

This particular show will be a major first for the Exhibition Centre in that it marks EXPOCLIMA's debut as an entirely separate event on a truly European scale. EXPOCLIMA-Brussels is an initiative of the other co-organisers CECOMAF (the European Committee of Manufacturers of Refrigeration Equipment) and EUROVENT (the European Committee of Air Handling and Air Conditioning Equipment Manufacturers).

The Commission of the European Communities will be giving its backing to the event, and highlighting the European dimension of the Fair, through the involvement of two Commissioners. Karl-Heinz NARJES, Commision Vice-President and Commissioner for Industrial Matters has agreed to sit on the sponsorship committee of the "First Air-Conditioning Days", a conference organised on the sidelines of the EXPOCLIMA — Brussels Fair, while Willy De Clerq, EC Commissioner for External Relations and Commercial Policy, will be a member of the sponsorship committee for the fair and the conference.

• *The Tanaiste, Mr Dick Spring, presents the overall Energy Award to Pat O'Driscoll of Waterford Co-Op during the Energy Management Award Dinner at the Imperial Hotel Cork. Also included are Harold O'Sullivan, Chairman of the Awards Committee and Neville Dowling, Chief Executive, Bord Gais.*

# Up-tempo days. Downbeat nights.

In the Andes, the humming bird switches off at night by going into a form of hibernation.

It cools its body temperature down by the same degree as the surrounding air, which can be as much as from 38°C to 14°C.

This enables the humming bird to conserve its resources for the intense activity of the day, when it uses an enormous amount of energy with up to 100 wing beats per second and flight speeds of over 70 mph.

Unfortunately, computers don't have the same natural in-built thermostatic control and often have to work non-stop, twenty four hours a day.

This means that the heat they generate can build up and seriously impair their efficiency which then leads to expensive down time.

These problems can be avoided by installing a Liebert computer support system which, in addition to environmental control, can also include electrical power monitoring and protection, fire detection and access security equipment.

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# IDHE Diploma Presentations

AT A special presentation ceremony held in the Engineers Club, Clyde Road, Dublin 4, immediately prior to Christmas, the IDHE organised a function to mark the award of 1st and 2nd year diplomas to 10 students in all.

One recipient, Tom Comerford, was a 1st year held over from last year, the others in this category being Sean O'Kelly, Brian Walsh, Mark Byrne, Ronan Fitzharris, Martin Leonard and Frank Connolly. The 2nd year diploma recipients were James Lawlor, Francis Kearns and Gerald O'Sullivan.

Since the new syllabus was introduced to the three-year course, the student response to the six subjects involved has been encouraging. The success rate has been 100% to date with the Education Committee confident of extending this record to the coming year.

On the broader front IDHE activity will be stepped up in the coming months. Plans are in hand to generate more interest is Cork while a new branch is going to be established in Galway.

## Programme of Technical/Social Events '86

| Date/Time | Venue | Activity |
|---|---|---|
| 16 January 1986 7.30 pm | Engineers' Club 22 Clyde Road | Lecture: New Dublin Gas Company's Quality Assurance Scheme and Social Evening. |
| 20 February 1986 7.30 pm | Engineers' Club 22 Clyde Road | Lecture: The Future for Oil as a Domestic Fuel & Social Evening. Sponsored by Irish Shell. |
| 7 March 1986 | Gresham Hotel Dublin | I.D.H.E. Annual Dinner Dance. Full details to be notified later. |
| 11th March 1986 7.30 pm | Engineers' Club 22 Clyde Road | Lecture and Social Evening. Sponsored by Stelrad Ltd. |
| 15 April 1986 | Runtalrad, Thomastown Co. Kilkenny | Factory visit. Sponsored by Runtalrad. |
| 16 May 1986 | Donabate Golf Club | Annual Golf Outing. Sponsored by Thorn Heating Ltd. |

# Boulter Strengthen Sales Force

THE newly-appointed area sales manager for Boulter Boilers Ltd. in the North West region, including the Isle of Man and Ireland, is Gerry Kennedy. He joins the company from within the gas and oil boiler/spares market.

With responsibility for the development of sales into both the domestic and commercial/ industrial sectors, Gerry is talking to customers about Boulter's rationalised range of appliances for 1986. This comprises the oil fired Camray 2, "for any domestic installation situation", and the new "S" Series Pathfinder PAL for oil or gas firing for the commercial/ industrial market.

• *Bob Couchman with Christy Kane and Harry Pattison at the "Student Presentation" evening in Clyde Road immediately before Christmas.*

• *IDHE "Student Presentation": Alex Tracey with Sean O'Kelly and Kevin Long, IDHE Vice-Chairman.*

• *IDHE "student presentation": Colm Connolly with Paul Clery, John O'Rourke and Bob Smyth of the Education Committee.*

• *IDHE "student presentation" – First year diploma recipients – Ronan Fitzharris and Brian Walsh with one of the course tutors, Dessie O'Laughlin.*


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# Computers in Engineering

"Computers and the Engineer" is the theme of the first one-day national conference being held at the Irish Management Institute, Sandyford, Co. Dublin, on Thursday 20nd February 1986 by the Institution of Engineers of Ireland.

Computers and related information processing technologies are being used by some engineers and administrative personnel to assist them with their work. Increasingly, individuals are recognising the opportunities presented by information technology to improve service and reduce costs. Many are also conscious that computers will have significant effects on their working environment. The seminar is intended to suggest ideas as to how computers might assist individual engineers with their work and to provide some basic guidelines regarding the acquisition of computer systems.

Papers include "Information Technology and the Engineer — Opportunity or Threat" by Brendan O'Malley, Manufacturing Marketing Manager of Digital Equipment; "PC Applications in Engineering" by Kieron Hickey, ESB Systems Engineer; "Expert Systems in Engineering" by Niamh Harty, Lecturer in Engineering Science, Trinity College, Dublin; "Computer Integrated Manufacturing — The Engineer's Role" by Dr. Michael Pierce, Managing Director, Mentec; "Computing in Local Government — Anticipated Future Developments and Opportunities" by Edmund Dunlop, Assistant Director (Technical), Local Government Computer Services Board; "Computer Aided Design/Drafting" by Dr John Gaughan, Director of Ove Arup & Oasys; "Designing the Engineer's Desk of the Future" by David Algeo, Partner of Price Waterhouse.

Early booking is advisable and details are available from the Conference Secretary, IEI, 22 Clyde Road, Dublin 4.

• *At the presentation of prizes and diplomas to students in the Engineering and Technology Departments, The College of Technology, Bolton Street, Dublin were (from left): Tony Hackett, Sales Manager, Shires Ireland Ltd; Oliver McNulty, Head of the Engineering Department, Bolton Street; Francis McNulty, Balbriggan, student at the College and one of the recipients. Shires Ireland have again supported the College of Technology by helping to provide much needed "funds" for two students studying for their 3rd year Building Services Engineering Degree/Diplomas.*

# Hamco Get Franco Belge

FRANCO-BELGE the leading French manufacturer of high quality solid fuel and oil fired units has appointed Hamco Enterprises Ltd, Tullamore, sole Irish distributors.

In the past, these cookers were successfully handled by International Appliances Ltd. and this available transfer of agency lost effect late last year. Franco-Belge, France wishes to express their appreciation to the merchant trade for the support given to IAL over the past five years and looks forward to a continuation of this co-operation with their new agents, Hamco Enterprises Ltd.

In addition to the renowned-high output solid fuel central heating "Franco-Belge", Hamco will also be marketing the revolutionary "Gretalux" cooker, which is a fully automatic oil-fired unit and has an output up to 100,000 Btu.

# Grundfos Striving For Quality Assurance Award

"Striving for Quality Assurance" is the title of a newly-introduced annual award scheme jointly conceived by Grundfos (Ireland) Ltd, in association with the National Standards Authority of Ireland (NSAI), to promote a better awareness of the quality assurance factor in relation to the design and installation of building services.

• *Dermot Murphy, General Manager, Grundfos (Ireland) Ltd.*

Quality Assurance is now a recognised discipline when it comes to the specification and subsequent installation of both mechanical and electrical services, a growing movement for its support having evolved over the last 12 months among the professionals concerned.

The importance of quality assurance relative to products is generally acknowledged but, all


• *Dun Laoghaire Heating Supplies Ltd. was recently established to supply heating and plumbing materials to the trade and to give a service to oil burner service engineers. Proprietor is Peter Hamilton who has extensive experience in this sector of the industry. Stock items include Grant back-boilers; Barlo Radiators; gas and oil-fired boilers; oil tanks; control boxes; nozzles; fittings; and sanitaryware and fittings.*

# Pump Guide

The British Pump Manufacturers' Association announces the availability of the 1986 edition of its multi-language Buyers Guide to Pumps.

The format of this edition embraces a greatly expanded illustrated listing of principal pump types; a compendium of manufacturers' products detailing material specifications, discharge diameters, heads, flow rates and types of drive; a guide to pump applications; and a guide to couplings and seals.

Profiles of the manufacturing companies include their trade names and trade marks. Also included are appropriate conversion factors and preferred terms.

too often their effectiveness is negated by improper and incorrect specification and installation. The recent issue — IS300 — from the National Standards Authority of Ireland (formerly the IIRS Standards Division) adequately caters for product standard but the building services professions also have a role to play in assuring the correct use of those products.

The "Striving" element of the award comes from the fact that with quality assurance being a relatively new science, and with IS300 just introduced, the intention is to promote an increased awareness of the need for quality assurance and to reward those who have made a major contribution to its development in recent years.

The Grundfos "Striving for Quality Assurance" Award will be administered on the basis of nominations received with regard to a specific building project completed within the last five years. Nomination forms are available on request from Grundfos (Ireland) Ltd. and will also appear in the February issue of Plan. It is anticipated that most entries will be submitted by architects and satisfied clients.

An adjudicating panel comprising a representative from the Chartered Institution of Building Services Engineers, the National Standards Authority of Ireland, the contractors section within the Construction Industry Federation and Grundfos will make the final assessment.

There will be three awards in all — one for the design of the services which will go to the consultants concerned and one each respectively for the mechanical and electrical contractors involved.

Closing date for receipt of nomination forms is 28 March 1986 with a view to the presentation of the awards at a special luncheon reception on 7 May 1986.

• *Ewing Patterson, Director, National Standards Authority (NSAI); Dermot Murphy, General Manager, Grundfos (Ireland); Arthur O'Connor, President, Electrical Industries Federation of Ireland (EIFI); and, Sean Mulcahy, VMRA.*

## APPOINTMENTS AT MODERN PLANT

MODERN PLANT Ltd. have appointed Henry T Bolger and Noel M Lawlor to the Board.

John F Woods has been appointed Chief Accountant.

Modern Plant Ltd, established over a quarter of a century, are one of Ireland's leading stockists and distributors of Industrial/Engineering components and shower/washing

* *Henry T Bolger.*



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* *Noel M Lawlor.*

* *John F Woods.*

facilities products.

The Head Office is at Naas Road, Dublin, with branch offices in Cork and Belfast.

Henry Bolger is based at the company's Cork office, while Noel Lawlor has overall responsibility for shower/washing facilities products.

## Flue Gas Analyser

An in-situ, infrared (IR) device that utilises high resolution absorbtion spectroscopy to measure carbon monoxide (CO) content in combustion flue gas, has been introduced by the Combustion Control Division of the Westinghouse Electric Corporation.

The instrument, designated Model 620, is manufactured in Ireland at the Westinghouse Electronics and Control plant in Shannon, which in 1985 was awarded two manufacturing Quality System Approvals. The first by the Irish Quality Control Association, the second by the British Standards Institute for meeting the requirements for registration as an approved firm of BS5750.

The analyser is ideally suited to serve as an input to an automatic combustion control system. The analyser utilises lighweight, stack-mounted units to beam infrared (IR) from a light source located on one side of the stack to an analyser located on the other.

• *IDHE/NDG Quality Assurance Scheme Lecture: Pictured at the IDHE lecture meeting last month where NDG outlined and discussed all aspects of the Quality Assurance Scheme were (left to right): Pat Walshe, NDG, Hugh Maguire, Consultant Engineer, and Bill Penrice, Design Heating Ltd.*

• *At the IDHE/NDG lecture were: Eamon McGlade, NGD; Virgil Bolger IDHE and Frank Bodkin, NDG.*

CIBSE NEWS

# ANNUAL REGIONAL TECHNICAL VISIT

LIMERICK WAS chosen as the venue of this year's regional technical visit. A party of thirty, including students, travelled from Dublin and were joined by members and friends from the south-west.

The programme included a presentation by Mr Tony Cusack

• *Group on regional visit to Limerick.*

on the evolution of the glandless pump followed by a tour of the Wilo factory. Visits were also made to NIHE complex and the Wang factory.

Wilo kindly sponsored a most successful evening meal and fellowship and also all transportation for the party while in Limerick.

# LIGHTING FOR THE NINETIES

A JOINT presentation was made by Rudi Inhelder and Brian Spencer of Wotan Lamps, England.

Aspects covered included low voltage tungten halogen lamps and

• LIGHTING FOR THE NINETIES: *Denis O'Grady, Mentor with Brian Spencer and Rudi Inhelder, Wotan.*

application; high frequency control gear; and metal halide developments in display lighting.

These lighting evenings traditionally attract capacity attendances and this particular one proved no exception. More than 100 people attended and produced many interesting and authoritative questions for the visiting speakers.

The evening was sponsored by Mentor Engineering.

# CELEBRITY LUNCH

NINETY DINERS enjoyed an excellent luncheon at the Deerpark Restaurant Clonskea for the annual celebrity lunch. The attendance exceeded all expectation.

Guest of honour was Mr Chris Jones, CIF President, who entertained the large gathering with his reminiscences of his early experiences in building services.

Fellowship of CIBSE Republic of Ireland branch was awarded to Mr Jones to mark the occasion.

• CELEBRITY LUNCH: *Chris Jones, President, CIF, receiving his "fellowship" from Paddy Clonan, CIBSE, Republic of Ireland Branch Chairman.*

• *Student gathering at Bolton Street.*

# STUDENTS OF TODAY ... MEN OF TOMORROW

JACK TORRANCE, President CIBSE, requested that his recent visit to Dublin should include the opportunity for him to address the building services students at the College of Technology, Bolton Street. The college authorities were most responsive to the request, particularly as their degree course in building services is now in full swing. This report is a synopsis of the presentation.

"Cliches are sneered at by the literate because they are boringly repetitive but they should not be seen that way. Cliches are repetitive indeed but they do convey essential truths in a lucidly clear manner. Hence the title of this address.


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"In the construction industry and in CIBSE we 'seniors' gathered here are today's men. But tomorrow we will be 'yesterday's men'. That is why you are so important to us and our Institution; if there is no tomorrow all the efforts of today will have been fruitless. You are crucial to our industry; otherwise, some ninety years of this Institution have been in vain.

"The IHVE was formed in 1897 and believe it or not a Mr Maguire of Dublin was President in 1901. The IES was founded in 1909 and the amalgamation of these two elements was formalised in 1976 with the granting of Chartered Status to our Institution. The matter has been a trifle confusing because, while the Institution was chartered, individual members could not be accorded the same status. This compromise of the time was an absurdity and ever since we have been fighting our cause for full recognition. You will be pleased to learn that I have every confident that we shall shortly be accepted by the engineering council as a full qualifying member in our own right.

"This is the great inheritance yesterday's men are bequeathing to you. We have fought our way into the front ranks of the engineering institutions. However,we cannot hope to retain our place if we do not continue our development. Your brief will be to see to that development. Computerised design techniques, three-dimensional drafting, quality assurance schemes, better site and energy management will all come within your gambit.

"It is for these reasons that you are so important to an institution which presently boasts a membership of 12,000 engineers. Do not let anyone tell you that you are "merely" a student.

"A student of this great and growing institution is a precious commodity; we depend upon you for the future and having already had the opportunity of speaking to many of you today I feel that future is in very capable hands. Men of Tomorrow I wish you well."

• *Ken Beattie with Larry Kane and Mervyn Reid.*

• *Michael Buckley with Jack Torrance.*

• *Paddy Clonan, with President and Mrs Torrance.*

• *Peter O'Callaghan being presented with his Walker/CIBSE Prize.*

• *Jack Torrance with John Denny and Gerry Cullen.*

• *Geraldine Sinnott receiving her Walker/CIBSE prize.*

• *Jack Torrance presenting Past Chairman Medal to Michael Moloney.*

• *Paddy Clonan with Joe Fortune, Bolton St; Greg Traynor and Oliver McNulty, Bolton Street.*

face to face
with John Elliott

# Solid Fuel Cookers - Avoiding Bad Installations

*With a market in Ireland of some 8,000-10,000 units a year, solid fuel cooker installations are good business, but many of them give rise to problems which need never have occurred.* ***Neil Steedman*** *asked John Elliott, Technical Manager of solid fuel cooker distributors Wamsler (Ireland) Ltd, how they could be avoided.*

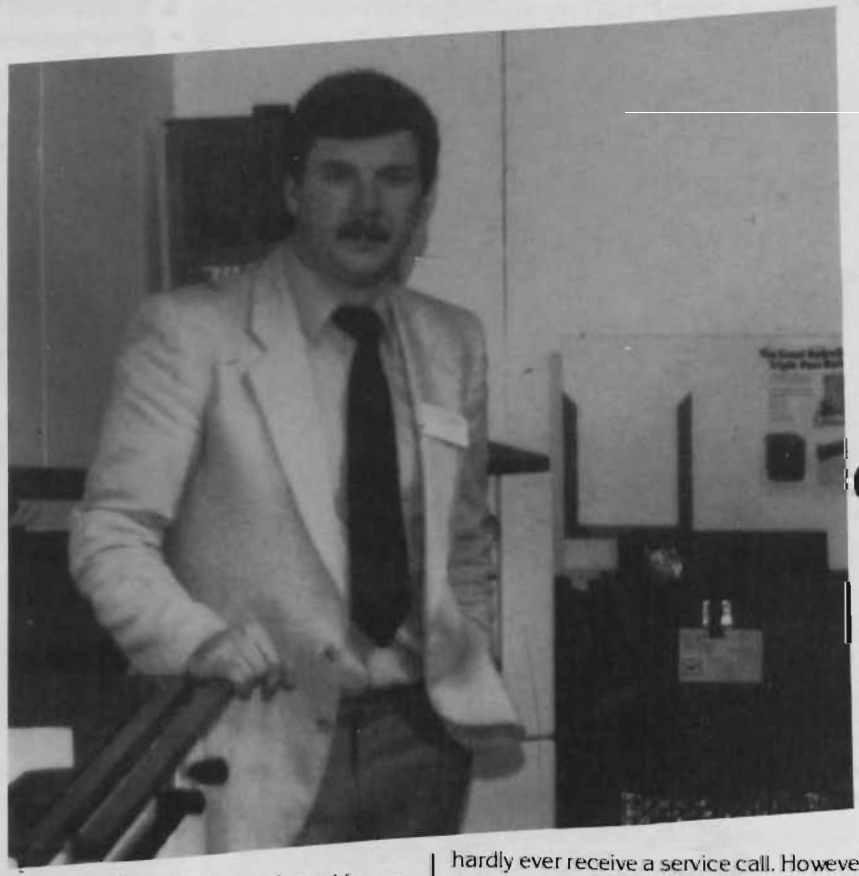
In a perfect world, manufacturers/distributors would make and supply a faultless solid fuel cooker every single time, the retail sales assistant would have complete product knowledge of all the brands and models that he or she stocks, the installer would do so to perfection, and the customer would fully understand how to operate and maintain their new proudly-owned possession.

Life, of course, is not quite like that and in reality each of the four participants do have their failings. More often than not, they also blame one of the other parties and it is usually the case that the supplier ends up being the party blamed by the other three.

When Wamsler (Ireland) Ltd was established in 1979 to import solid fuel cookers from Germany, John Elliott was appointed Office Manager with responsibility for the day-to-day running of the business. When problems started to occur, they at first appeared to be nearly all product-related, but after extensive technical study and field research of the problems John established that in fact most were caused by incorrect installation.

Before outlining the installation faults, however, John told me: "If only the customers would read and understand the owner's handbook properly, many problems could be avoided. It may be obvious to read 'use recommended fuels only and never burn garbage or small coal', for example, or 'clean your cooker, the fluepipe and the chimney regularly' but people frequently ignore such instructions.

"Recently, after a number of irate telephone calls from a lady in Galway about a smokey cooker, I went to see her only to discover that she had never cleaned the unit out in the two years since she bought it."



Where a unit has been purchased from a retail outlet, these and other problems could easily be sorted out, inexpensively and at local level, if the sales staff were all versed in the product. Wamsler have helped to promote such a situation with training seminars, but more can always be learnt.

Wamsler do not recommend particular installers, but nevertheless they do supply cookers direct to a number of installers around the country who they know are highly competant, and from whom they hardly ever receive a service call. However, John concludes that the overall standard of installation throughout the 32 counties leaves a lot to be desired with the result that about three-quarters of weekly service calls are the result of incorrect installation rather than a faulty cooker. Support for this view is that the very same products generate very few problems in the UK and the rest of Europe.

*The smoking cooker* - "Some 99% of smokey cookers are caused by lack of draught on the chimney," says John, "which can be caused by:

(a) Too small a take-off pipe from the back of the cooker;
(b) A badly sited flue or soot cleaning door;
(c) A poor quality or badly sealed soot door;
(d) Insufficient chimney height in relation to the internal diameter, and
(e) Use of an asbestos flue pipe which may work perfectly for up to 18 months but then start to crack.

"I would recommend that installers:
(a) Use a vitreous enamel flue pipe;
(b) Rise the flue pipe from the cooker to assist exit of smoke in the early stages when the chimney is cold;
(c) Site the soot cleaning door above or below the flue take-off, never directly opposite;
(d) Make sure that the chimney clears the roof apex by a minimum of 20";
(e) Ensure that overall chimney height is a minimum 15 ft from the spigot centre; well insulated chimneys with a smooth inside surface should have diameters as follows: 16 ft height, 8" diameter; 32 ft, 7"; 48 ft, 6"; to achieve a draught of approximately .2 millibar; the diameter should be increased by ½" if the inside of the chimney is rough;
(f) Use a draught meter when the installation is complete and make sure that the draught is as recommended by the manufacturer."

*Pipework, Balancing and Inter-linking* - Another problem frequently encountered is that the cold water feed and expansion pipe have been combined, whereas it is absolutely essential to have separate pipes on ANY solid fuel appliance.

"If pipes are combined, the water flow is restricted which will cause the water to turn into steam, there will be a build-up of pressure which at best will warp the boiler and at worst set fire to the house. I checkec five installations in two days recently and three of them had combined pipework."

It is also important to balance the radiators correctly to suit the house on completion of the installation and to ensure that the pump flow and speed are regulated properly. John estimates that some 8% of service calls relate to unbalanced systems.

Where systems are inter-linked, there must be two coils in the copper cylinder so that the units are isolated and there is no danger of one unit loading the other. "If the pipework from the cooker is connected to a back-boiler or oil-fired installation and then run to the copper cylinder, you will effectively reduce the cooker output because it will heat the other appliance before the cylinder."

*Stabilisers* - Whenever there is a serious overdraught problem (ie. higher than the manufacturer's recommendation) there will be difficulty in controlling the oven temperature and the burning rate of the fuel, thus resulting in high fuel consumption. A stabiliser should then be fitted — but only when there is serious overdraught and never simply when there is a smoke problem. Stabilisers are designed to reduce draught, not cure smoke problems.

*How to Avoid Problems* - It need hardly be said that Wamsler (Ireland) Ltd. — and no doubt all the other solid fuel cooker suppliers — wish to see the number of installations problems drastically reduced and John Elliott is only too willing to give installers, retailers and customers advice on installation problems and technical information prior to a Wamsler unit being purchased.

"Customers do come direct to us for information before buying and anyone, customer or installer, can call in or telephone to Wamsler for advice.

"For the installer, we also have draught meters available for purchase for about £40, at which price we don't make any profit. They are an essential tool for every installer and full instructions are given. Smoke test pellets are also available from us if required.

"My message to installers is contact Wamsler for technical advice prior to installation and together we can prevent many problems occuring."

# Streets ahead!

## ACO Drain

### SURFACE WATER DRAINAGE SYSTEM

*In Europe these days, an impressively high proportion of town planners, engineers and architects are specifying the Aco Drain Surface Water Drainage System.*

*For the very good reasons that the system is extremely effective, economical, aesthetically pleasing and has many applications.*

*The Aco system consists of interconnecting pre-cast polymer concrete trench drains, gullies and other components. Gratings are available in a wide variety of materials and patterns. Your choice will depend on the type of application, anticipated loading, as well as your own taste preference.*

*Advantages of the Aco linear drainage system include uniform quality of the pre-cast product, precise control over channel slope, economy in laying, greater compressive and flexural strength, lighter weight than conventional systems as well as superior chemical resistance.*

*Applications: pedestrians areas, pavements and car parks/kerb drainage in main and side streets/driving lanes on roads; cross drains on motorways/high load areas such as industrial plants and airport runways.*

*We invite your enquiries.*

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Enquiry Code No. 8

# Marketing and Quality are the Key to Success

*By D O Byrne, Managing Director, Wavin Ireland Ltd.*

Since the beginning of this decade there has been a steady decline in the construction industry and recently published reports give no indication that the situation will change in the months ahead.

The most recent Central Bank Report indicates that there may well be another fall in building output for 1986 while the Construction Industry Federation says that the Irish construction industry is still suffering one of the sharpest declines in Europe.

One of the worst hit areas is that of house building. In a recent CIF survey nearly half of the respondents said that they did not expect any change in construction activity for 1986, while 42% expected it to decrease.

It's a far cry from the rapid growth in the 1970s. Construction output in 1979 was almost one-fifth of Gross Domestic Product.

Since that time, however, the sector has been in progressive decline and output has fallen by one quarter in real terms. In 1984 output stood at only 11.5% of GDP. The Department of the Environment has forecast that construction output for 1986 will be 4% lower than last year.

The effects of this downward shift have been felt by everyone connected with the building industry. Not least the 44,500 unemployed people who previously worked in the industry.

The decline in demand has been a major inhibiting factor both in long range planning and in the development of the structures more capable of availing of export opportunities.

According to the Fourth Report of the Joint Committee on Small Business, the medium to long term indications are that population pressures and structure in Ireland will require a high level of housing well into the next century. An Foras Forbartha foresees that there will be a need for 153,500 units between 1986 and 1990. This compares with 135,100 units required between 1981 and 1985.

What is theoretically required and what will actually be required are not necessarily compatable! Although mortgage finance is largely available, disposable income is not. In addition, it is estimated that between 7,500 and 15,000 people will leave Ireland each year until 1991.

However, the greatest influence on the construction industry is Government spending. The State either directly or indirectly finances approximately 75% of all construction work in Ireland. Since the early 1980s, Government capital expenditure has been declining in real value. While there may be a marginal increase in the public capital programme to finance the package of new measures announced last October, it will not be of significant help to the construction industry.

The industry needs a massive boost of confidence and at the time of writing it is hoped that the forthcoming 1986 budget will go some way towards generating this.

Faced with a gloomy market place companies operating in the building industry have two options — either to cease trading or tackle the problems within their own limitations.

In Wavin, we are convinced that the only way to survive in the market today is through aggressive marketing with quality products.

Our plans for 1986 have been based on these twin platforms. To improve our quality even further we are investing £2.5 million in new plant and equipment. We are also re-enforcing our quality control systems throughout the company. We were the first manufacturing company within the building industry to be awarded the Irish Quality Control Association Quality Mark.

On the marketing side we will be implementing a programme of activities throughout the year aimed at the various market segments.

It is essential that those committed to the construction industry take positive steps to maintain the highest standards possible in these difficult times. The State sector could make a major contribution to standards and indeed to boosting the confidence of the industry by only providing grants and loans to all State projects where tax registered contractors are used.

The provision of new grants for home improvements only where tax registered contractors are used was a very welcome move towards alleviating the problems caused by the black economy and a boost to these builders who operate their activities in a professional and legal manner.

Despite the gloom — or rather because of it — it is a challenging time for everyone concerned with the construction industry. The industry is too important to the economy to do otherwise than face this challenge head-on.

*The greatest influence on the construction industry is Government spending. The State either directly or indirectly finances approximately 75% of all construction work in Ireland. Since the early 1980s, Government capital expenditure has been declining in real value. While there may be a marginal increase in the public capital programme to finance the package of new measures announced last October, it will not be of significant help to the construction industry.*

Building Services News, Vol. 25, Iss. 1 [1986], Art. 1

# Current Developments in Domestic Drainage

***Neil Steedman outlines recent trends in above and below ground drainage for residential buildings, with particular reference to changes brought by the Proposed Building Regulations.***

Regretably, the most obvious trend in domestic drainage is that it is declining along with house completions! Although a programme of 30,000 house completions a year is often said to be the minimum target if this country's housing needs are to be met by the fast-approaching year 2000, the reality has been different.

In the past seven years, total house completions have risen from 25,444 in 1978 to a peak of 28,917 in 1981 and declined again to 24,944 in 1984 — so we built exactly 500 houses less in 1984 than in 1978.

Increases in local authority completions in the last two years (up to 7,002 in 1984) failed to compensate for cut-backs in the private sector and are believed to have dropped again last year, so that the final figure for house completions in 1985 may be below 23,000, the lowest level since 1972.

### uPVC Dominates the Market

The most dramatic change over the past 20 years has been the arrival of uPVC pipes and fittings and their almost total domination of domestic above and below ground drainage.

For above ground drainage, cast iron held the field until the mid-1960's but by the early 1970's uPVC had captured almost 100 per cent of this market.

Similarly, uPVC has come to dominate below ground drainage over the traditional materials of cast iron, vitrified clay, concrete and asbestos cement. Apart from two local authorities who continue to use vitrified clay, and sometimes asbestos cement, throughout their own housing schemes and occasional uses of clay or concrete elsewhere, domestic below ground drainage is now 100 per cent uPVC.

Manufacturers of uPVC pipes and fittings in Ireland — all of whom import special fittings for which home production would be uneconomic — comprise Wavin, Marley, Uponor, Cork Plastics and Quality Plastics in the Republic of Ireland and Martin Plastics, Polypipe and Unidare Terrain in Northern Ireland.

The ranges of pipes and fittings offered by the various manufacturers are, broadly speaking, comparable and contracts are won primarily on price. However, one supplier markets a sealed access drainage system for installations where internal manholes would be required under Building Regulation M6 (1)(e).

The major suppliers provide free technical advisory services which are frequently availed of by architects, particularly in the design of apartment buildings, schools and hospitals.

### Technical Developments

In contrast to the dramatic change in material, significant technological developments are few and far between, although all the manufacturers regularly improve product designs and joint methods.

A recent innovation has been the development in Sweden of the Durgo automatic air admittance valve which has become extensively used in continental Europe and more recently in the UK. The valve prevents the release of foul air from above ground drainage systems yet admits air under conditions of reduced pressure in the system.

The Durgo valve must always be fitted in a vertical position above the flood level of the highest discharging sanitary appliance on each floor or alternatively it can be located in the loft space. Either way, the valves reduce ventilating pipe runs and roof penetrations — and hence cost — without affecting drainage performance. In a row of dwellings incorporating Durgo valves, for example, a full height ventilated stack is only required on every tenth house.

The Durgo valve has been awarded Agrément Certificate No. 83/977 and satisfies the Northern Ireland Building Regulations and it is only a matter of time before it becomes generally acceptable in the Republic of Ireland.

### Building Regulations Bring Changes

The Republic's new Proposed Building Regulations have introduced a number of changes to drainage practice as follows:

Where two and not more than six waste appliances (wash-hand basins) are used in a range, a common waste pipe and trap is permissable, provided that the pipe does not exceed 5 metres and includes a cleaning eye — Reg: M12(3)(b). This is a considerable relaxation on the UK's BS5572: 1978 which requires every wash-hand basin to have its own trap.

For WC's, flushing cisterns which incorporate an integral overflow discharging into the soil appliance are also now permitted — Reg: M13(5).

While it is still permissable (although not desirable) for a sink's waste pipe to discharge above a gully trap grating, where the sink incorporates a waste disposal unit the pipe must discharge below the grating and above the water level — Reg: M13(4).

Before passing on to below ground drainage, it should perhaps be mentioned that whereas in the past the two-pipe system was standard and a waiver was required for single stack plumbing, both are now permitted, the practical choice being largely dependent on the layout of fittings.

The maximum spacing of manholes on a drain has been increased to 90 metres — Reg: M5(3)(c). This may allow the number of manholes, and hence cost, to be reduced, depending on the site layout, but it remains to be seen how frequently this will happen in practice.

A more significant change is that a single connection can now be made into a drain at any one point without a manhole, provided it does so obliquely and in the direction of the flow (and, of course, provided it can be rodded) — Reg: M5(5).

Where two branches join opposite each other a manhole is still required, but the use of Armstrong-junctions is now permitted for shallow drains (up to 750mm depth) — Reg: M5(6). Indeed, for the purposes of the Regulations as a whole, an Armstrong-junction is deemed to be a manhole and no distinction is made between a shallow and a deep manhole (bearing in mind the need for inspection and rodding) — Reg: M2.

Another important point to note is that whereas Dublin County Council and Dublin Corporation bye-laws required an intercepting trap at the edge of the site before connection into the sewer, this is no longer mandatory according to the Proposed Building Regulations.

Potentially the greatest change has occurred as regards drain trenches near or under walls — Reg: M7. Whereas the bye-laws required only a concrete bed and haunch, Regulation M7(1) requires a concrete surround up to a point 150mm above the 45 degs. intersection line from the underside of the foundation or, if the drain is 1 metre or less from the foundation, Regulation M7(2) requires the concrete surround to extend upwards to the level of the underside of the foundation.

This not only implies that the drain could be located under the foundation pad but also would result in the need for 'underground walls' when very deep drains are involved, unless a waiver is granted.

Finally, it should perhaps be noted that there is no change as regards septic tanks — the IIRS publication SR6: 1975, Recommendations for Septic Tank Drainage Systems Suitable for Single Houses, remains the authoritative document.

# Terrain Solvent Cement. How the benefits stack up.

- **Fewer Fixings.** Terrain Solvent Cement cuts the number of fixings needed for soil stacks – saving costs, simplifying jobs.
- **Simple.** With easy-to-use Solvent Cement, you can pre-assemble soil stacks – dramatically cutting the work needed on site.
- **Compact fittings.** Gives the plumber more room for manoeuvre.
- **Versatile.** The huge range of Terrain fittings makes our soil stacks versatile as well as economical.
- **Reliable.** High quality Terrain soil stacks accommodate day to day expansion without leaks.
- **Strength.** Terrain Solvent Cement doesn't stick. It welds – permanently!

## The Unbeatable Systems.

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considerably reduced its product range and now specialises in manufacture of watermain products, eg pipe fittings and municipal products.

The foundry operates on a 5-acre site at East Wall Road where approximately 2½ thousand tons of castings are produced annually. This tonnage is made up of products which could range from a few lbs in weight to castings which weigh up to four tons. Apart from actual manufacturing and stocking of their own products, the company has acquired a number of agencies from overseas manufacturers in order that it can provide a complete package to the watermain industry.

The following world recognised manufacturers are represented in Ireland by Tonge & Taggart: Stanton & staveley spin iron pipes, J. Blakeborough & Sons valves and hydrants, Glynwed Foundries Ltd. (Building Products Division) soil and drain pipes including the Timesaver System. Large numbers of all the above products are held in their comprehensive stockyard at their East Wall Road premises.

The facilities at Tonge & Taggart allow for inquiries to be handled whether in the form of samples, drawings or specification, ie. the company has its own pattern making, machining, testing and transport facilities. In general products manufactured at East Wall Road come under the following headings: gas, sewerage and watermain pipe fittings, ie. bends, tees, etc, all of which can be produced either to metric or imperial standards, depending on requirements, municipal castings ie. manhole covers, gully gratings and frames, stopcock covers and frames etc, sectional water storage tanks, in addition to these the company manufactures a wide range of miscellaneous products in cast iron.

It is the Local Authorities in Ireland who initiate much of the major water schemes in the country generally through the civil eng. contractors who are large and valued customers. The advantage to them of having a home manufacturer for these products means that products which are required at short notice for emergency purposes can be fed into the manufacturing program ahead of less urgent items, thus the company is capable of literally helping the Local Authorities out of a hole. In addition to the County Councils and Corporations, the company also provides a full service to the Industrial sector and has benefitted from the influx of major foreign industries into Ireland in recent years.

In addition to catering for the need of home industry, Tonge & Taggart have in the last few years made considerable progress in the export field with over 10% of manufactured output being exported. The majority of these exports have gone to Middle Eastern countries such as Kuwait, the United Arab Emirates, Saudi Arabia and Bahrain. But the company also pride itself on the fact that it is capable of competing in the UK market and apart from Northern Ireland where a full time Agent operates, they have also sold their products on the mainland.

Details from Tonge & Taggert Ltd, East Wall Road, Dublin 3. (Tel: 786088; Telex 30993).

# Quality is Paramount at Wavin

A major aspect of Wavin's success in remaining market leader in the area of PVC pipe systems has been the attention paid to innovation, research and development.

To meet market needs Wavin has almost 1,000 products and is capable of giving a full service for virtually any drainage or distribution requirement.

Wavin has more IIRS certified products than any other manufacturer in Ireland and is the only PVC manufacturer in the country to have been awarded the Irish Quality Control Association Quality Mark.

Since its establishment Wavin has been Ireland's leading manufacturer of PVC pipe systems. Its quality control programme is renowned for its highly demanding testing procedures and the consistently high standard of products which it manufactures.

Over the years, Wavin has developed and tested a wide range of products to meet virtually every pipework and drainage requirement, water and distribution, sewage, land and drainage, rainwater, soil and waste.

But it is not just the quality and range of its systems which has made Wavin such a well respected manufactuer. It is also the technical support and experience which it can bring to major projects.

It was Wavin who pioneered the use of uPVC pipe in Ireland and it is Wavin who has continued to be the principal innovator with regard uPVC pipe systems since then.

The majority of major water schemes presently under construction in Ireland are making use of Wavin's products and technical expertise. It is the ability to be able to supply quality products when required that has contributed to Wavin's success.

# *Marley Pipework Innovations*

Over the past 20 years there has been a dramatic change in above ground soil and waste systems with the introduction of uPVC pipes and fittings and their almost total domination of the market — a development which owes much to the establishment by Marley of manufacturing facilities at Lucan, Co Dublin in 1967.

Throughout those years, Marley Plumbing have been the industry's innovators, manufacturing and distributing such problem solving products as the Marley collar boss and the Durgo automatic air admittance valve.

The Guaranteed Irish uPVC pipes and fittings are manufactured in Lucan by Marley Extrusions (Ireland) Ltd. and include a comprehensive range of 110mm (4") uPVC pipe and fittings in black or grey together with WC manifold components and 160mm (6") uPVC pipe and fittings in grey. All are designed and manufactured to meet the requirements of best plumbing practice and the specific needs of single stack plumbing.

**Marley Collar Boss** — The design of the Marley Collar Boss SCB41 was prompted by restrictions imposed on the connection between bath discharge pipe and vertical stack, as WC discharges are liable to cause a blockage in an exposed orifice situated in the immediate vicinity of the WC branch.

**The Durgo Valve** — A recent innovation is the Durgo automatic air admittance valve which prevents the release of foul air from above ground drainage system yet admits air under conditions of reduced pressure in the system.

**Multikwik WC Connectors** — Another problem-solving product available from Marley Plumbing is the Multikwik range of flexible WC connectors which are easy to install for new or remedial work and do not require sockets or jointing compound.

**Marley Plumbing Underground** — Marley Plumbing spend more money on research than any other plastics pipe manufacturer, so it is not surprising that they should choose to bury some of their best ideas in underground drainage — ideas such as their sealed access systems and the universal gulley trap.

**Marley Universal Gulley Trap** – Since its launch on to the market in 1981, the Irish designed and manufactured Marley Universal Gully Trap has proved to be a fast, economical answer to the widest variety of site applications.

**Marley Sealed Access System** — For more than 16 years, Marley has maintained continuous development of sealed access uPVC drainage systems for installations where internal manholes are required. This includes pioneering the principles of rodding points, shallow access chambers and sealed access manholes as being the most satisfactory techniques for inspecting, testing and cleaning buried drains.

**Technical Advisory Service** — Marley Plumbing provide a free technical advisory service on all aspects of pipework and drainage systems, a service which is frequently availed of by architects, engineers and building developers, particularly in the design of apartment buildings, schools and hospitals.

This service, including detailed technical brochures on all the above products and guidance in pipework design and installation, is available from Marley Flooring & Plumbing Ltd., Lucan, Co. Dublin. Tel: 01-280691. Telex: 25155.

# Four In One At International Hevac '86

Industrial and Trade Fairs Ltd., the organisers of the long-established and successful series of International Hevac exhibitions, promise something really special for the next event — 11-15 May 1986, National Exhibition Centre, Birmingham — four shows in one.

International Hevac '86, the 14th in the series and the sixth to be held at the NEC, will incorporate *Domestic Heating and Plumbing Fair; Hevac Building Services Exhibition; Refrigeration '86;* and, a late addition, *International Energy Efficiency Exhibition '86;* thus presenting a broader product scope than ever before and covering practically all industrial, commercial and domestic heating, ventilating, air-conditioning, refrigeration, conservation, plumbing and engineering applications.

Another first for the 1986 event will be the Sunday opening. Exhibition Director Eric Gosden comments: "For the first time, International Hevac will open its doors on Sunday, allowing more overseas visitors to benefit from cheaper weekend flights and for installers and smaller companies to attend without biting into their week-day schedules."

International Hevac '86 will of course be following on from the successful showings of the Exhibition in recent years, particularly successful since the move to the NEC in 1976. The last show, in April 1984, featured the products and services of 538 exhibiting companies from 18 countries and attracted a total of more than 23,000 registered trade visitors.

*Domestic Heating and Pluming Fair* - International Hevac '86 now offers the domestic heating and plumbing manufacturers their own show within a show for the first time. Of the total attendance at Hevac '84, over 14,000 visitors specified domestic heating as being their main product interest and one third specified plumbing purchases.

*Hevac Building Services Exhibition* - Providing heating, ventilation and air-conditioning to the next generation of factories, warehouses, offices and dwelling, or re-furbishing existing systems — many for the first time in 25-30 years — is a major undertaking.

Brand new concepts in energy efficiency , control and design are continually being sought and developed in conjunction with existing, traditional products. Hevac Building Services is the largest and the only truly international show where all of these developments can be seen and inter-related.

*Refrigeration '86* — Refrigeration '86 has been conceived to give a diverse, important and growing industry a major international marketing platform that will attract influential UK and overseas buyers. The Exhibition is sponsored by the British Refrigeration Association.

A series of special features and events will be adding to the feast of attractions awaiting visitors at the National Exhibition Centre, Birmingham.

As well as presenting to its visitors four-exhibitions-in-one — Domestic Heating and Plumbing Fair, Hevac Building Services Exhibition, Refrigeration '86, International Energy Efficiency Exhibition '86 — there will be a series of state-of-the-art-seminars.

Eight concise sessions, lasting an hour each, will be held at the NEC, (12 noon to 1 pm and 2pm — 3pm on 12-15 May) and will feature industry experts and specialists discussing topical issues and latest developments. As 1986 is Energy Efficiency Year, energy efficiency will be given special emphasis and priority in the seminar programme. A small charge will be made to attend the seminars.

A much-appreciated and well-used visitor service within the exhibition is the computer enquiry system. At each of the information desks around the halls, visitors may specify which products and services they particularly wish to see and will then be given a print-out — not only listing the companies in the exhibition featuring such products, but also including a location plan, showing the easiest route to them all. The service is completely free.

Many of the visitors to

• *H&V News visited the new Lloyds building in Lime Street, London where again the building services installed proved to be most interesting.*

https://arrow.tudublin.ie/bsn/vol25/iss1/1
DOI: 10.21427/D7B40P

International Hevac '86 will belong to the Chartered Institution of Building Services Engineers (CIBSE), whose members represent the leading specifiers for the products and services that will be on show. ITF are offering such visitors — CIBSE UK and overseas members — the opportunity to join the "International Hevac CIBSE Club' which will provide a number of on-site facilities including a private reception point/lounge where they can plan their exhibition visit and which they can use throughout their stay. The lounge will have a large seating area, free coffee, a pay-bar and information about the exhibition and exhibitors.

There will also be a party at the end of the middle-day of the exhibition (13 May) to which exhibitors and their special customers are invited. The wine, beer and cheese party will feature a top local traditional jazz band and will take place in the NEC's Griffin Restaurant, 6.30pm to 8.30pm on Tuesday 13 May.

With well over 10,000 square metres of exhibition space already booked, International Hevac '86 is already well on the way to repeating the success of previous exhibitions in the series.

Organisers Industrial and Trade Fairs Ltd. report that the exhibition is again proving to be a big attraction to the industry as a whole. Market-leading companies who have already made bookings include Airedale, British Gas, Combat, Danfoss, Eaton Williams, Hamworthy, JEI, Landis & Gyr, Potterton, Satchwell, Sauter, Stelrad, Sunvic, Thorn EMI, Woods of Colchester, Worcester Engineering, Vaillant, Vokes, Ziehl EBM and HRP.

Exhibition Manager Eric Gosden commented that the number of applications at this stage compared favourably with the situation five months before the last show in 1984. "The support from the major market-leaders in the industry confirms the industry's belief not only in the exhibition but also in the NEC as the UK's premier international exhibition venue."

With the broader scope and the four clearly-identified industry sectors plus recent indications of a brighter outlook for the industry, ITF feel that International Hevac '86 will be the best staging yet of an event that has been internationally recognised for more than 24 years as one of the world's largest showcases for the industry — offering even greater appeal to exhibitors and visitors alike.

Prominent among the new features has been the steady widening of the product base, which now embraces all aspects of building services, within the widest possible definition of the term.

• *During the recent overseas editors' preview visit in respect of International HEVAC '86, H&V News was given a tour of the extensive services installed in Heathrow Airports' new Terminal 4 building. The scale and complexity of the project was enormous and we hope to publish an article on the subject at a future date.*

• *Another view of the vast building services installation involved in the Terminal 4 building of Heathrow Airport.*

Compared with the first show in 1961, described at the time as a "fan engineering exhibition", because of the large number of manufacturers of these products taking part, the 1984 event was very much a multi-product show and the 1986 showing will be even more so.

This growing emphasis of services is also represented by such bodies as the British Refrigeration Association, Building Research Establishment, Chartered Institute of Building Services (CIBSE) and many others, together with firms and organisations offering such services as computing facilities, appliance testing and energy management consultancy.

# Win A Free Trip To The Show

**Industrial and Trade Fairs, the organisers, and Expotel, the official travel agents to International Hevac '86 have donated a free retum air ticket on British Airways services and two nights hotel accommodation at the Birmingham Metropole Hotel for an overseas visitor to come to the show.**

**The offer is being made by ITF, Expotel and the Metropole Hotel exclusively to readers of journals represented on the recent International Hevac '86 overseas editors visits which included H&V News.**

**All those who intend to visit the exhibition next May should send a business card to International Hevac '86 organisers Industrial and Trade Fairs Ltd. by 31 March 1986. A senior BA representative will then draw the winning business card out of the hat on 1 April.**

**Business cards should be sent to: Brian Morris, Director of Publicity, International Hevac '86, Oriel House, The Quadrant, Richmond upon Thames, Surrey, TW9 1DL.**

INTERNATIONAL Hevac 86

# New Products & Literature

## Danfoss Information Service

The Building Services Group of Danfoss have launched a new commercial information servce for specifiers and contractors called The Danfoss Partnership. Devised as a means of keeping commercial specifiers and contractors personally updated on a regular basis, the partnership will provide information on Danfoss products, their application and relevant support services.

All interested persons can obtain a registration form from the Publicity Department at Danfoss head office in Greenford on request.
**(Enquiry Code No. 57).**

## Dia-norm 'Diamond'

A series of new "Diamond" convector radiators with higher heat outputs has been unveiled by Dia-norm UK. The new "T 11-plus" is in three basic heights — 400, 620 and 650 mm — in 18 different lengths with a maximum output of more than 15,000 btu's per hour.

All "Diamond" low-water content radiators are guaranteed for five years and key features include a large convector area with fins directly welded on to the waterways.
**(Enquiry Code No. 52).**

## Selkirk Brochure

Leading manufacturer of prefabricated chimney systems, Selkirk have recently published an 8-page illustrated brochure detailing their range of commercial and industrial chimneys and flues.

The full-colour brochure is illustrated with photographs of chimney installations and detailed sectional drawings of typical mast configurations.

Outputs up to 9MW (7.5k cal/h 30 million Btu/h) can be met using a Selkirk chimney. There are three ranges to choose from depending on fuel type, boiler size and chimney position. These chimneys are of triple wall or twin wall insulated construction using either aluminium or stainless steel free expanding inner linings for rapid attainment of optimum free flue temperature.
**(Enquiry Code No. 59).**

## Low-Flow Commissioning

Following their highly-successful development of the UK's first "one valve" commissioning system, valve manufacturers Hattersley Newman Hender have introduced another H&V industry first.

** The new 'low-flow' metering station – another H&V industry first for HNH.*

Recognising the need that exists to measure very low flow rates within H&V systems, the new HNH low-flow metering station has been developed specifically to give readable and reliable manometer signals down to 0.01 litres per second.

Available from HNH distributors, the new metering station has a service rating of 13 bar at 150 degrees centigrade and 20 bar at 0 — 100 degrees centigrade. The standard model is size ½" BS 21 taper (fig. 100L) and is available screwed American thread (fig. 1000L A.T.).
**(Enquiry Code No. 56).**

## Deltaclima Benefits

A new concept of offering Deltaclima close control packaged equipment has been launched by RA (air conditioning) Company to introduce a greater element of standardisation deriving a series of benefits both to contractors and end users.

A representative range of vertical air handling units is being manufactured to maintain a continuous stocking situation to be mix-matched with a variety of condensing units to be similarly held in stock. A full range of duties between 20 kW and 60 kW can be obtained for varying sensible heat ratios dependent on the condensing unit selection.

The additional benefit of cost savings resulting from standardisation is being passed on in the form of lower prices. There are three schemes:
— The Packaged Package;
— "The Combination" Deltaclima;
— "The Standard Thermostatic".

Literature has been published giving full performance specification.
**(Enquiry Code No. 45).**


• *Literature specifying Deltaclima newly-introduced standard products.*

## Armitage Shanks 'Mirage'

When Armitage Shanks were looking for a name for their new corner bath, they started with their own design brief. The bath had to be compact enough to fit into smaller bathrooms but have the advantages of the corner design — in other words something that looked deceptively small but offered luxurious uncramped bathing! The bath they developed answered that brief in every detail and the name then followed quickly — Mirage.

The substantial market potential offered by corner baths has been hampered by the size of the products. Now, for the first time, Mirage offers the possibility of a high quality corner bath for the small/average sized British bathroom. It needs just over 4' of wall space and yet has a large internal bathing area fanning to a platform which is ideal for shampoo bottles, sponges or mooring toy boats!

The Mirage has ample access beneath, strengthened by a standard version full metal frame. The Mirage will be available with or without tapholes or grips. It will be supplied from stock in White, Champagne, Wild Sage and Pampas; all other popular Armitage Shanks colours will be made to order.
**(Enquiry Code No. 54).**

## Grundfos 'Mr Reliability'

The CR Grundfos range of vertical multi-stage in-line centrifugal pumps has been extended with the introduction of the CR 2 model. This widens the appeal of Grundfos' "one pump for all purposes" CR range, and consolidates the continuing success of the range in the Irish industrial sector.

# New Products & Literature

The CR 2 pump is introduced as a replacement for the popular CP 2 'offset' port multi-stage model which has been widely used for over 18 years and which will now be phased out gradually over a period of time.

The new model caters for the lower flow requirements previously filled by the CP 2, i.e. heads up to 230 metres, flows up to $3m^3/hr$, with maximum system pressures of 25 bars and pumped liquid temperatures of between $-20^0C$ and $120^0C$.

Potential applications include boiler feed, pressure boosting and distribution, washdown, and general service pumping in the industrial, agricultural and horticultural sectors.

The CR's in-line design also simplifies pipework design and fittings, making for tidy, space-saving installations. The usual high technical standards typifying all CR pumps are continued in the CR 2. Stainless steel is used as standard material for such components as impellers, stage chambers, pump shaft and outer sleeves.

Ready availability is a key factor for the end-user, and the CR 2 is no exception, thanks to Grundfos's fast quotation and delivery policy. The CR 2 will be assembled at Grundfos's Stillorgan works and is backed by a comprehensive spares, repairs and servicing facility through both Grundfos offices and through main distributors.
**(Enquiry Code No. 41).**

## Liebert Challenger 2

Liebert International, manufacturers of specialist air conditioning and power control systems for data processing and related applications, have recently added new microprocessor capabilities to their Challenger 2 environmental control system.

Challenger 2 is a free-standing, modular packaged unit, designed to provide simultaneous temperature and humidity control specifically for the small to medium sized computer room environment.

Challenger 2 microprocessor controls offer a level of monitoring and control unavailable in other systems of its size . The system can be programmed to manage the unique environment for the individual date centre. Alarm functions provide immediate notification of potential problems before they can effect the computer.

The compact, vertical design of the Challenger 2 occupies less than seven square feet of floor space. Other important system features include A-frame coil with draw-through air distribution to maximise coil surface area and minimise air turbulence. A highly-efficient infrared humidifier features the patented Autoflush system. Challenger 2 is available in 3-ton and 5-ton capacities with a choice of air-cooled, water cooled, glycol cooled or chilled water systems.
**(Enquiry Code No. 42).**

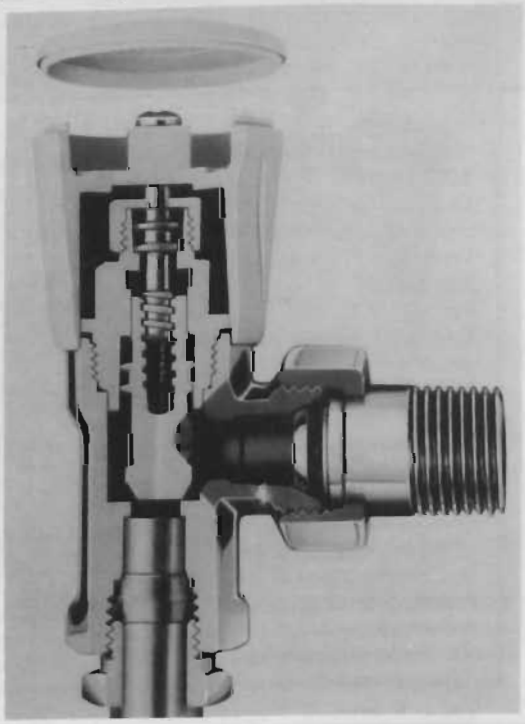
## Long-Life Radiator Valve

Myson has launched a new heavyweight radiator valve designed specifically for commercial or larger domestic heating systems which fully complies with Bs2767-10.

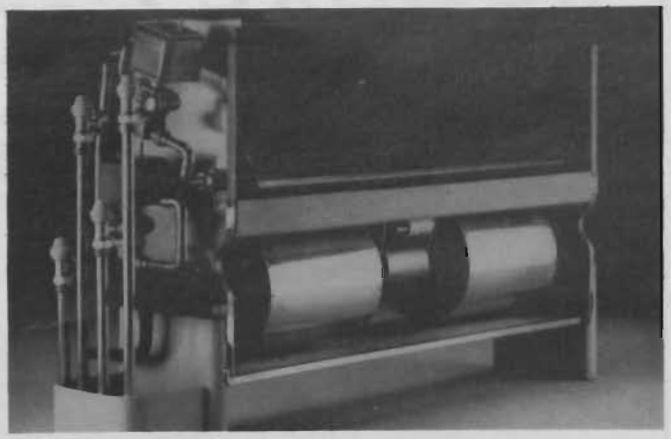
Known as the Myson FullFlow, the valve complements the company's existing range of domestic radiator valves. It features a non-rising spindle machanism, enabling it to withstand high use demands found typically in commercial applications, such as offices and hospitals.

Its back seating design also allows maintenance to be carried out while the system is operating. The spindle can be removed for servicing while the plunger remains securely sealed, using an 'O' ring seal, preventing the escape of system water.

As an additional benefit the tailpiece also utilises an 'O' ring. This ensures a watertight seal without the addition of sealants traditionally used by installers.
**(Enquiry Code No. 50).**



• *Cutaway of the Myson Full Flow valve.*



• *The RH fan coil unit from Coolmation can form part of a split system with Rhoss CMA condensing units and has a 3-speed fan unit as standard enabling noise level control.*

## Coolmation's 3-Speed Unit

Designed for and aimed at commercial applications such as offices, hotels and variable load environments, the new Rhoss RH fan coil unit is available in DX, chilled water and 4-pipe versions. Competitively priced, the unit is marketed by Coolmation Ltd.

The RH fan coil can form part of a split system with Rhoss CMA condensing units and has a 3-speed statically and dynamically balanced fan unit as standard which affords control of noise levels.

Selection from the threee speeds enables the noise level to be controlled.
**(Enquiry Code No. 47).**

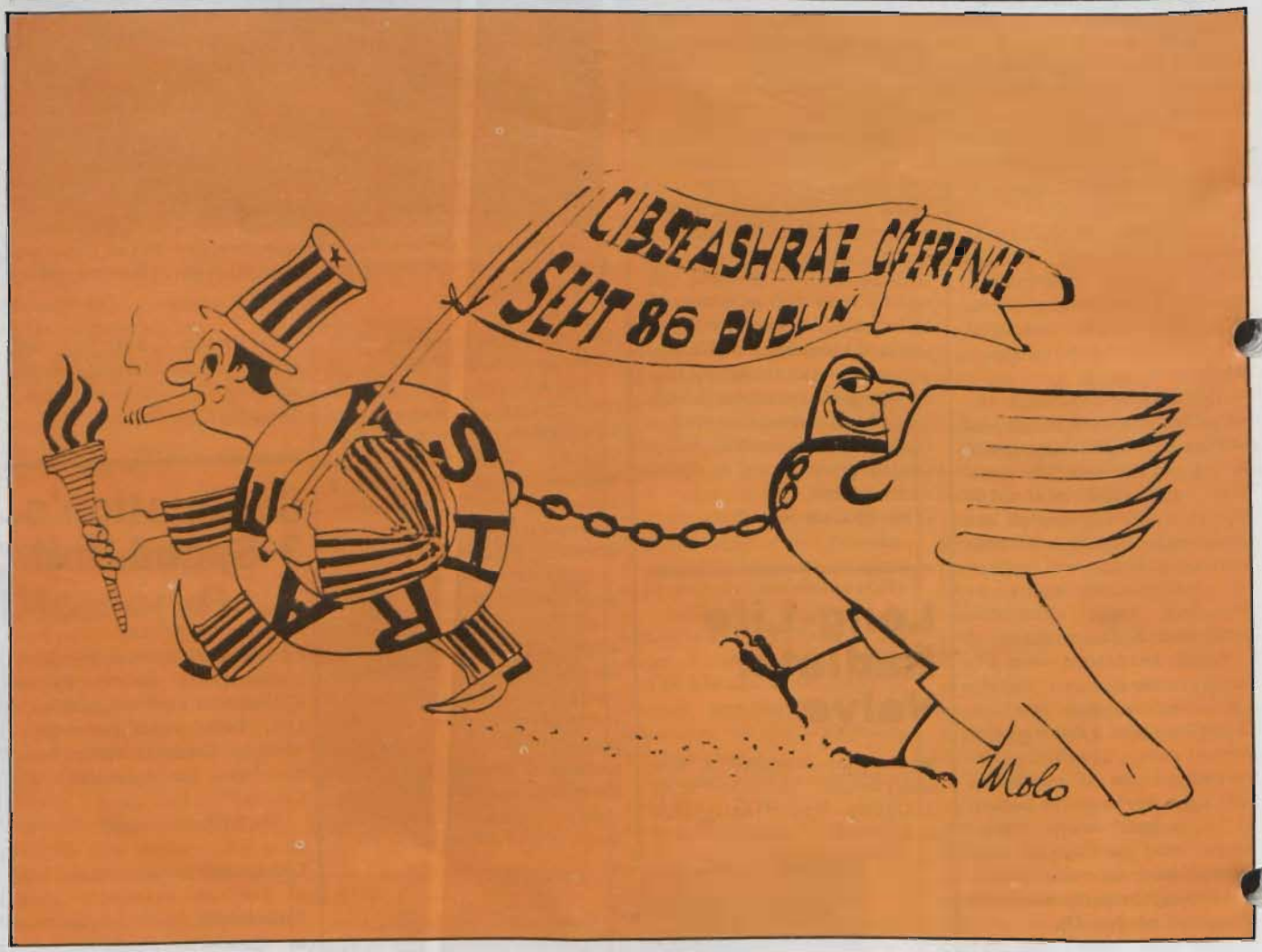
## Gas Flue Literature

Reflecting its growing export activity, Rite-Vent's new Maxflow gas vent literature is multi-lingual.

Construction, selection and installation details are clearly set out over 10 pages, with many diagrams and tables. The Maxflow is designed for residential and commercial installations.
**(Enquiry Code No. 53).**

# ASHRAE Comes To Dublin

By Eoin Kenny, Vice-President, CIBSE




ASHRAE will be exactly 92 years and 4½ days old at 9 am on Monday, 15 September next, when a gathering of its members welcomes the arrival of the President of Ireland, Dr Patrick Hillery, to the rostrum of the Walton Lecture Theatre in Trinity College Dublin for the opening of their meeting. Most readers will no doubt agree that a gathering of Americans and others in Dublin is a fine idea, which hopefully will benefit both them and us, but what is ASHRAE, what has it done and what does it do, and why will it be meeting in Dublin?

ASHRAE is the American Society of Heating, Regrigeration and Air Conditioning Engineers and it will be in Dublin for its third joint Summer Meeting with the CIBSE — the Chartered Institution of Building Services Engineering. Both bodies are of an age; ASHRAE's foundation meeting was called for 3 pm on 10 September 1894 in the Broadway Central Hotel, New York City, under the name American Society of Heating & Ventilating Engineers; just over three years later CIBSE was registered as the Institution of Heating and Ventilating Engineers in London, and held its first general meeting of members there on the 17 November 1898 in the Albert Hotel, Ludgate Circus, with a Dublin man playing a key role in its first few years' operations.

ASHRAE's objectives at foundation were like those of most societies or institutions devoted to a particular field — promotion of the arts and sciences connected with H & V, improvement in mechanical construction of appliances used for H & V, maintenance of high professional standards, establishment of defined minimum standards of H & V in all classes of buildings, the reading discussion and publication of papers and other interchange of knowledge among its members. It has pursued these objectives with what can truthfully be described as great vigour. It now has about 55,000 members organised in 160 Chapters, each of which mounts technical meetings, symposia, professional development courses and other educational activities in its own area. There are currently 140 chapters in the US, grouped in 12 regions, with a further 17 in Canada, and one in each of Sydney, Hong Kong and Singapore. There are 50 ASHRAE members in Ireland and about 500 in the UK.

I should have indicated earlier that the current ASHRAE format dates from 1959 when the original ASH & VE joined with ASRE — the American Society of

# ASHRAE Comes To Dublin

Refrigeration Engineers to form ASHRAE. ASRE, founded just 80 years ago on 4 December 1905, initially dealt with the production of ice for the preservation of food but, with the growth of air conditioning in buildings involving the wide use of refrigeration, the interests of a large proportion of their individual members were paralleled in both societies and the members agreed that they should be combined.

As well as Chapter meetings at which hundreds of technical papers are presented, ASHRAE mounts two major national conferences each year, provides each member with a 4-volume handbook containing an enormous amount of data and information on H&V and refrigeration technology, together with guidelines for accomplishing tasks and solving problems. Members also receive the monthly ASHRAE journal containing feature articles discussing emerging technologies, as well as Society programmes, and governmental and industry news relevant to their activities.

Research and development of standards are two other fields of ASHRAE activity, it being claimed that no other engineering society supports as extensive a research programme. At one time the Society maintained its own research laboratories in Cleveland, but disbanded this in 1961 and devoted the proceeds to investment in co-operative research projects by selected organisations and individuals. In 1984-85 the amount collected for such disbursement was $787,953 and the target for ASHRAE year 1985-86 is $1.1 million.

Whatever about the amount, the organisation of this funding is truly remarkable and should be pondered on by this side of the Atlantic. The $787,953 was provided not by a small number of large contributions; over 9,000 individual chapters, companies and organisations responded to the local and national appeal for "investors". The "Honor Roll" published in the October '85 ASHRAE journal lists about 3,000 such "investors" only two of which were in the band "above $10,000" and only 92 of which were in the six bands between $250 and $10,000. Hence there were 2,900 investors in the $100 — $250 bracket and 6,000 more who invested less than $100. You, the readers, may well say "sure that's not much in the US context" but what a widespread awareness and committment to "invest" in their professional/industrial future and to ASHRAE!

ASHRAE is very much involved in the American "Voluntary Standard" system which is markedly different from ours in as much as most standards are developed by societies and institutions such as ASHRAE when it has been demonstrated that a consensus exists for its development. Such standards are often submitted to the American National Standards Institute (ANSI) for adoption as American National Standards. ANSI, being the national co-ordinator of voluntary standards development, conducts its own reviews of the work of the various ASHRAE's committees engaged on standards work.

Consensus is all important in the voluntary standard system, and the Project Committee appointed by the ASHRAE Standards Committee, with the Project Liason Committee and the Planning Policy and Interpretation Sub Committee, all partake in a complex process of nearly 30 steps involving drafting, submissions, consideration, voting, public review and approvals. The ASHRAE Board of

# ASHRAE Comes To Dublin

Directors who have the final say must be satisfied that consensus has been achieved ie substantial agreement reached by concerned interests according to the judgement of a duly appointed authority after a concerted attempt to resolve any objections. Consensus implies much more than the concept of a simple majority but not necessarily unanimity. Despite the complexity of the procedure standards do get produced in a reasonable time. Currently there are 64 ASHRAE approved standards available and more than 20 others are being developed.

The most significant standard produced by ASHRAE is their Standard 90 — "Energy Conservation in New Building Design" initially approved in 1975 following OPEC's first significant impact on the world energy scenario. ASHRAE claim that this has helped materially in reducing energy consumed in new commercial buildings, indicating that this has decreased by about 25% compared with those constructed a few years ago, and by up to 50% compared to structures built 10 years ago. Like all ASHRAE standards compliance is voluntary, but as the Building and Energy Codes in all 50 of the United States are based on Standard 90 it has the force of law in numerous jurisdictions.

ASHRAE's most impressive activity in the minds of many Irish people involved with Building Services is the publishing of their Handbook which covers the whole range of Heating, Ventilating, Air Conditioning and Refrigeration practice as it applies to buildings and industrial refrigeration applications. Four volumes covering Fundamentals, Systems, Equipment and Applications respectively are continuously updated and published on a four year cycle — last year all members received a copy of the 1985 Fundamentals Volume replacing the 1981 edition and in 1986 they will receive the 1986 Applications Volume, the last issue of which was in 1982. The technical scope of the Handbook is very wide, extending from the basic physiological principles of comfort and health to their realisation through systems and equipment in all sorts of commercial, residential, public, industrial, devotional, educational, recreational and health care buildings, and all common forms of transportation. (Submarines and space shuttles are not yet included).

The index lists some 7,000 topics covered in the Handbook which, even if two entries are assumed for cross referencing of each topic, is an impressive — even a formidable — total. Starting with absorbents, it proceeds with great variety through azeotropes, burnouts, chickens, draperies, equations of state, fall-out, fur, gymnasia, helium and hoods to pick but a few at random, on to scrubbers, theatres, unit heaters, vapours, wine making and wood products. Food features prominently particularly meat with 45 topics, dairy products with 30 topics, and fish with 14 topics. More than 26 vegetables and 20 fruits are listed as being covered as well as the appropriate technology applying to beer, bread, candy and grain.

Statistics may be boring but they are certainly impressive in illustrating the resources ASHRAE can mobilise. The Handbook's four volumes contain nearly 3,000 pages spread over 32 sections subdivided into 180 chapters, which are put together and continously updated by 11 technical committees supported by 96 task groups involving several hundred




DOI: 10.21427/D7B40P

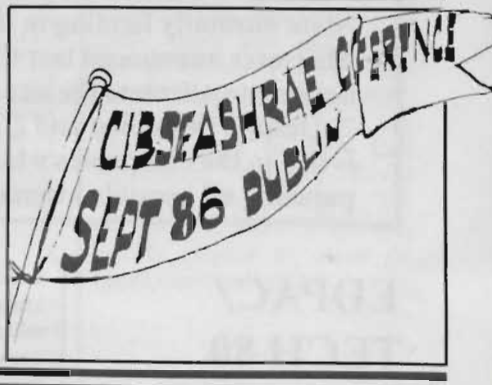
# ASHRAE Comes To Dublin

experienced qualified people recognised as authoritative in their fields. They utilise inputs from a further 367 specialist contributors whose names are listed and attributed to the appropriate chapters. It commenced with three technical sessions on Sunday covering 98 papers.

The enormous organisational effort and dynamic of execution evident in ASHRAE's approach to the Handbook to Research and to Standards is replicated in the Summer and Winter national meetings which ASHRAE mounts each year. The 1985 Summer meeting held in Honolulu over four days in June last involved 240 papers or symposia commencing on Sunday with 98 technical presentations divided over 3 sessions. Monday was an easy day with 22 offerings in one session commencing at 10 am. You had to be of sterner stuff to cope conscientiously with Tuesday and Wednesday each having two sessions commencing at 7.30am and 9.30am, and covering 72 and 68 technical offerings respectively — somewhat different from how we do things here.

Honolulu, incidentally, is the home of ASHRAE President-elect, Fred Kohloss, who will become President this summer and hence will share the Presiding function in Dublin. Fred has a distinguished consultancy practice and is one of the specialist contributors to the Handbook. He and his wife Peggy visited Dublin for a day last Summer to meet Chairman Paddy Clonan and the CIBSE Irish Branch Committee, on whose planning and organisational efforts so much will depend come September. Fred and Peggy established an almost instantaneous rapport with Paddy and Maeve Clonan and the rest of the CIBSE committee, which hopfully augurs well for the Dublin meeting.

Lastly, you may ask why are they meeting in Dublin? Well, there are many reasons but the basic one is the justifiably high regard the CIBSE Council and Administration in London have for the Irish Branch of CIBSE and for the vitality and purposefulness of its recent Chairmen and Committees in planning and executing such successful programmes of events in Ireland over the last few years. This regard led to their decision to seek an Irish President for CIBSE in 1986-87. He not unnaturally — and with the best interests of CIBSE at heart — chose Dublin for this particular joint meeting and convinced London and ASHRAE that it was a worthy choice. It is to be hoped that you Readers will back the Irish Committee and help to make this meeting a success by attending the various papers, (which will be listed later in this journal,) participating in the visits, and talking and exchanging experiences with the ASHRAE and CIBSE visitors and making them welcome in the best of Irish traditions by friendly, interested and informed communication.



# Budget Incentives Fail To Materialise

**With the continuing decline in the construction industry since the beginning of this decade, the air conditioning sector — like all the other contributory sectors to this area — has suffered in accordance. Output in the building industry is said to have declined by as much as a quarter with the figure standing at 11.5% of GDP in 1984 as opposed to nearly a fifth in 1979.**

**With the emphasis on refurbishment in the last couple of years, the air conditioning industry has at least maintained some reasonable level of activity but now, even that is beginning to come to an end.**

**The greatest influence on the construction industry will always be Government spending with the State normally funding in the region of 70% plus of building activity, either directly or indirectly. Measures announced last October created but a little incentive and the recent Budget did absolutely nothing to alleviate the situation.**

**Despite this doom and gloom, the air conditioning sector is putting a brave face on it and all credit is due to the companies who, in the face of this adversity, are tackling the problem head on in pursuing all possible avenues of potential.**

## EDPAC/ TECH 80 Series

EDPAC/TECH 80 cooling systems are Irish-designed and manufactured for computers of the '80s. These specialised air conditioning systems are ideally suited to environmental, educational, computer, telecommunications and commercial situations. Standard or air-cooled systems are available in addition to "Glycol" or water-cooled versions.

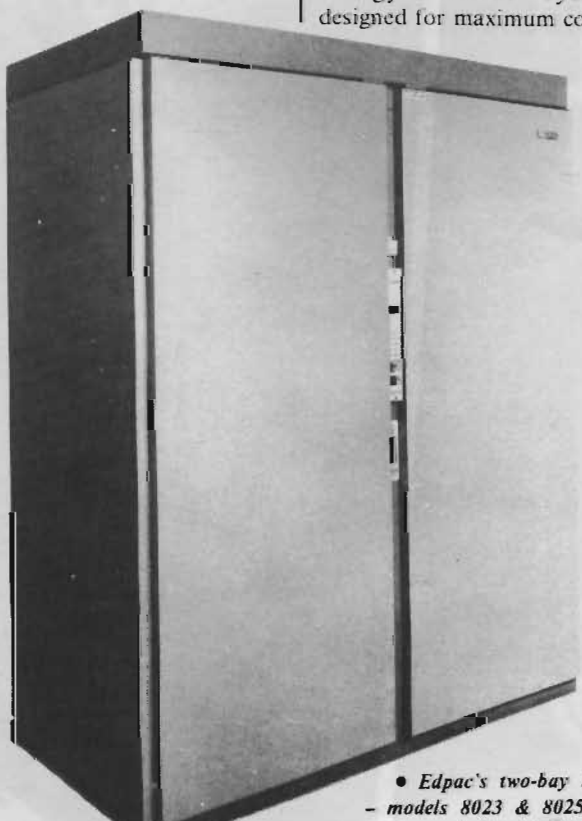
TECH 80 computer cooling systems represent the industry's most technically advanced energy-efficient systems designed for maximum control for today's computer room. They are engineered to maintain 100% sensible cooling at typical room conditions.

Humidification needs are cut to a minimum, making a small highly-efficient steam-generated humidifier practical. Two-speed compressors running at half speed maintain a minimum of 60% of sensible capacity. With proper cooling system redundancy they operate at half speed most of the time. an internal ECX coil actually connects an air-cooledsystem to a chilled water system with air-cooled back-up for maximum reliability and energy efficiency.

A solid state electronic control and status panel continually samples humidity and temperature, automatically signaling cooling, humidification as needed. Seven LEDs indicate system status and warn of any malfunctions.

With their wide range of advanced features, TECH 80 systems reduce operator costs to a minimum resulting in the longest life cycle cost in industry.

Details from Shamrock Air Conditioning Ltd, Unit 4, Lilmar Industrial Estate, Coolock Lane, Santry, Dublin 9, (Tel: 427069/427853).



• *Edpac's two-bay system – models 8023 & 8025 from Shamrock Air Conditioning.*

## Comprehensive Coolair Range

The new Daikin Skyair heat pump air conditioner is the latest adition to the comprehensive range of Daikin equipment currently available from Coolair Ltd, the Dublin and Cork-based air conditioning specialists.

Called the FHYC Series, the new indoor unit is a ceiling mounted cassette type giving two-way symmetrical air distribution for uniform comfort.

The bilateral discharge louvres distribute the air evenly, without drafts or hot spots, and the cassette design allows flexible, easy installation. The system has cooling capacities from 7.8KW to 13KW and heating capacities from 7.9KW to 14KW.

An optional decoration panel is also available, in ivory white or coffee brown, to accept most decors. The new systems, which is available ex-stock, comes with a choice of two outdoor units. Both the RY3LA and the RY4L.5L are efficient, compact and easy to install.

The multi-system room air conditioner is capable of connecting two or three fan coil units. This system also allows the units to be placed in different rooms for independent or simultaneous use.

The Sky Air unit is ideal for offices, shops, restaurants and conference roms and is available as a floor or wall-mounted unit in a choice of simulated walnut or ivory finishes.

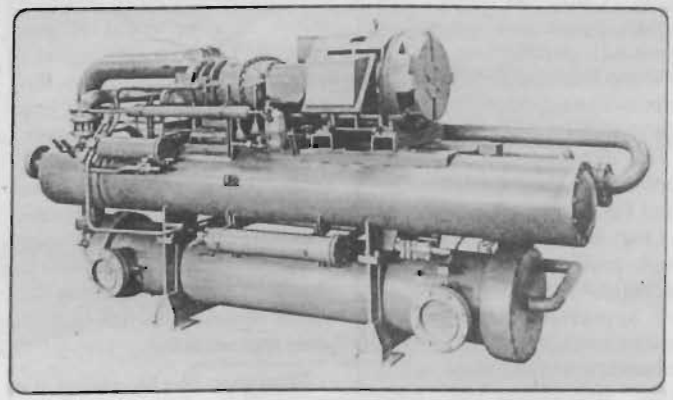
In addition to Daikin,

Coolair is also the distributor of Barber Colman, Airedale and Vapac equipment in Ireland. Coolair are at 25 Cookstown Industrial Estate, Tallaght, (Tel: 511244/511540) and at Mallow Road, Cork (Tel: 021-503630).

## Excellent Choice From Dunham-Bush

APV Hall Ireland Ltd distributes the Dunham-Bush range of equipment as well as Drum and Punkah Louvres, cooling towers and associated air conditioning products of the International APV Group.

Managing Director Walter McFarlane was quick to realise the need for a comprehensive range of piston and screw compressor packaged chillers and condensing units to cover most of the cooling and heat recovery requirements in the air conditioning and process industries. The Dunham-Bush range provides an excellent selection of air and water cooled packages, which are produced at their factory in Portsmouth. The vertical and horizontal screw compressors are produced in the USA and benefit from the extensive development testing and years of field experience in the vast American market.



• *Dunham-Bush open type packaged chillers from APV Hall.*

Particular interest has been shown in the vertical screw compressor chillers of which almost 100 installations are in operation in UK and Europe. These vertical screw units cover the majority of chilling applications in the medium capacity range from 40 TR to 320 TR and feature low noise and vibration free running, together with fully modulating capacity control. Needless to say, prices are very competitive for these as with all Dunham-Bush products.

For the original equipment manufacturer Dunham-Bush can also supply components including chillers, water cooled condensers, heat exchangers and receivers, etc.

APV Hall Drum and Punkah louvres are already well known in the trade over many years for applications where air flow at point of discharge has to be accurately controlled regarding noise level, pressure drop and terminal velocity etc. Comprehensive literature including selection data is available on request.

Needless to say, APV Hall Ireland places great emphasis on after-sales service and gives full commissioning and after sales back-up with good stocks of spare parts and accessories. Service Manager Frank Healy is the contact for this department.

For information on any Dunham-Bush or APV Hall equipment contact Kevin Keogh or Colin Huggett, Tel: (01) 580311, Telex 30943, who will be pleased to advise on application and prices.

# Air Conditioning and Ventilation Equipment

## Turbo Fan range

One of the most reputable ventilation fans — the Turbo — is designed and manufactured by the fast expanding Roof Units Group of Dudley, West Midlands. The renowned Roof Units company, now one of the largest suppliers of fans in the UK, is represented in Ireland by Dan Chambers Ltd who is the stockist and distributor for the market in Ireland.

The two firms have had remarkably similar growth patterns since the formation of Dan Chambers Ltd in 1977 and in fact, Roof Units Group was one of two Principals to appoint the Irish firm, when it was founded nine years ago.

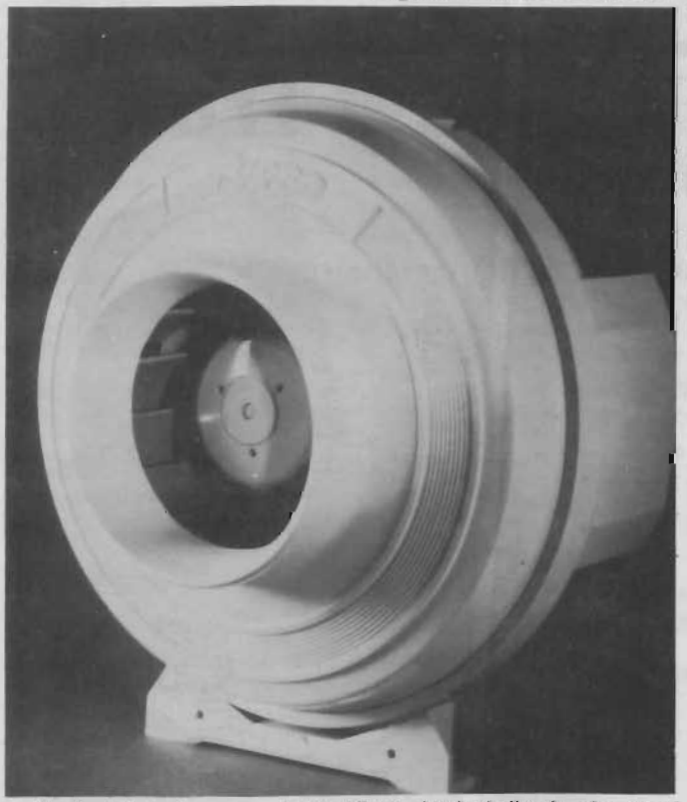
The Dan Chambers firm market many items in the Air Conditioning and Ventilation industries, but, one of the most successful Fans which they stock is the Roof Units Group Turbo range. There are five sizes available, from Turbo 1 up to Turbo 5. This model is a circular in-line Duct Fan giving a selection of air performances from 42 cfm to 800 cfm at pressures up to 1.5" w.g. And

available ex-Stock from Dan Chambers Ltd., 57/58 North Brunswick Street, Dublin 7.

The new restyled and redesigned Turbo Fan has produced the ultimate in Fan and practical enginerng, when applied to the most exciting concept to effect the Fan industry for many years. The "pipe", "tube" or "in-line" Fan though novel in concept and practical application has suffered from poor design and primitive production. Now, the new range of 5 Turbo Fans gives a new dimension to the many applications these superb in-line Duct Fans can power.

**Case:** The Case itself styled in tough moulded glass fibre, is aesthetically pleasing in texture and appearance and yet will survive the toughest and most demanding environment, while being impervious to most chemicals. The Casing is weather proof, corrosion proof and easily outstrips metal when rugged site and handling conditions are encountered.

**Computer Design:** Clever design has enabled the unique computer designed guide vanes to double as motor mounting brackets, which produces a straightened air flow and high efficiency output.



• *The Roof Units Group manufactured Turbo circular in-line duct fan, one of five in the Turbo Fan range, which are stocked and distributed by Dan Chambers Ltd.*

**Many Advantages:** The new Turbo circular in-line Duct Fans offer several useful features. There is the inbuilt speed control which gives the user a choice of full, threequarter, half of quarter speed when connecting up the Fan.

Alternatively, one can incorporate a 4 speed position switch to alter speed as one requires. This new inbuilt speed system avoids electronics and is electrically silent. Turbo 1 is a single speed Fan but it can be speed controlled by using a Speed Controller, while the Turbo Fans 2,3, 4 and 5 offer the selection of one of four fixed speeds by direct connection or, a choice of four speeds using the speed selector switch which gives quiet control.

**Mounting:** The Mounting of a Turbo Fan is simplicity itself with the specially designed "chunky" foot supplied as standard. The foot can be screwed to the wall, ratters or ceiling, then the Fan clicks into position. The Turbo range is sturdy and practical. The Fans will perform effortlessly in a variety of applications and they are so simple and economical to install.

The Turbos are powered by the revolutionary external rotor motor and their power unit has a failure rate of less than one Fan in a 1,000 while giving a life expectancy in excess of twenty years.

**Fan Housing:** The standard features of the Turbo Fans Housing include: A moulded terminal box and capacitor housing with weatherproof cover; Moulded feet to allow fixing in any position; Pre-wired and cartoned ready to be used.

The Turbo Fan's Motor and Impeller are equally meticulously designed and manufactured by Roof Units Group, to emphasise the point that this Range of Circular In-line duct Circular In-line Duct Fans is one of the largest and most successful Turbo Fans, now being marketed in the UK and in Ireland.

Additional information and Literature on the complete collection of 5 Turbo Fans from the Roof Units Group are available when one phones their Irish Distributors in Ireland: Dan Chambers Ltd, Tel: (01) 720971/720448 or Telex: 91129.

## Powrmatic's Modular Concept

Powrmatic Ltd manufacture a comprehensive range of powered input and extract ventilators, having air handling capacities from 0.30 m3/s to 8.13 m3/s. "Powrvent" extract units are designed for general ventilation purposes, the low profile cowl ensures unobtrusive installation on both wall and roof surfaces.

For heavier duty applications such as partical laden atmospheres the "Powrjet" extract unit is recommended. The high velocity vertical discharge ensures that exhausted air is forced well clear of the roof, eliminating the possibility of roof contamination and the re-entry of polluted air back into the building.

Powrmatic input units are based on a system of separate components or modules. This modular concept allows maximum flexibility in both design and installation. Input units can be roof or wall mounted as required. Ductwork components include fans, filters, heater batteries, mixing boxes, duct connectors, bends and distribution heads. This flexibility ensures that a system may be designed to suit the great majority of today's requirements.

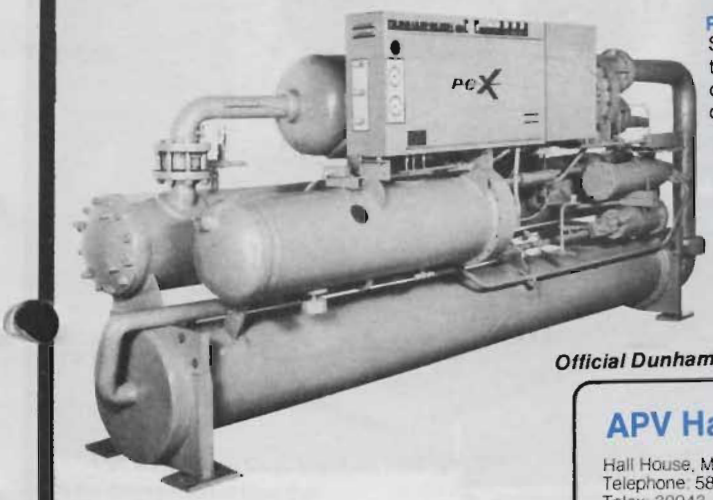
Cowls and Base plates are made in UV stabilised glass fibre (light grey), other BS colours available upon request. All fan motors are TEFV, Class "F" insulated, special protections ie, Tropicalised, "Flameproof", and two-speed motors are available.

For personnel protection all exposed moving fans are fitted with guards. Impellers are of the axial flow type and are composite construction with glass fibre reinforced blades mounted onto a cast aluminium hub. Internal ductwork is constructed from aluminium each part having pre-drilled flanges for ease of on Site Construction.

Recently introduced is the Powrvent "E" manufactured mainly from mill finish aluminium. It is designed for economical ventilation of the smaller factory unit, the four ventilators in the range have

# Air Conditioning, Refrigeration or Process Cooling, there's a Screw Compressor Package to suit your application.

Now you can select a rotary screw packaged chiller (or compressor/condensing unit) from the diversified Dunham-Bush line for your specific air conditioning, refrigeration or process cooling operation. Capacities range from 20-900 tons with operating temperatures as low as −40° F. suction and up to +70° F. brines. Choice of air, water or evaporative condensing mediums and R-12, R-22 or R-500 refrigerants.



**PCX-H Rotary Screw Packaged Chillers.**
Specifically designed for standard air conditioning jobs these units feature hermetic screw compressors and water cooled condensers in a compact package.

Capacities: 120-400 tons
Water Temperatures: +40° F. to +50° F.
Refrigerant: R-22
Condensing Medium: Water
Request Form: 6039

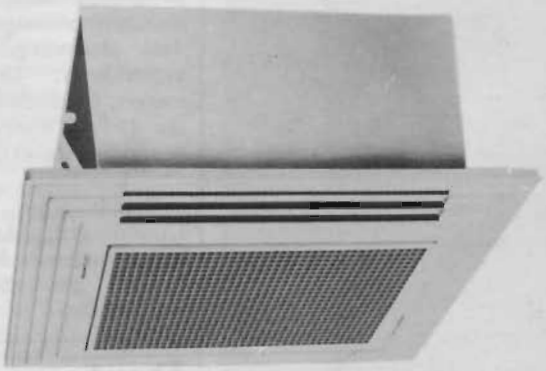
***Official Dunham-Bush approved Distributor for Republic of Ireland:***

**APV Hall Ireland Limited**

Hall House, Main Street, Rathcoole, Co. Dublin
Telephone: 580311 · 580008 · 580219
Telex: 30943

# DAIKIN

**NEW Sky Air Heat Pump Air Conditioners keep you in wall-to-wall comfort year 'round. They make the most of space. . . beautifully. . . save energy, and are easy to operate.**



**FHYC Series Ceiling Mounted Cassette Type Indoor Unit**
**Two-Way Symmetrical Air Distribution for Uniform Comfort**
**— Available ex-stock from —**

**coolair** Limited
**AIR CONDITIONING/AIR DISTRIBUTION**

25 Cookstown Ind. Est., Tallaght, Co. Dublin, Ireland.
Tel.: (01)511244/511540 Telex: 31689 COOL EI

Mallow Road, Cork, Ireland.
Tel.: (021)503630, Telex: 26152

# Air Conditioning and Ventilation Equipment

performances from 0.30 m3/s to 1.27 m3/s.

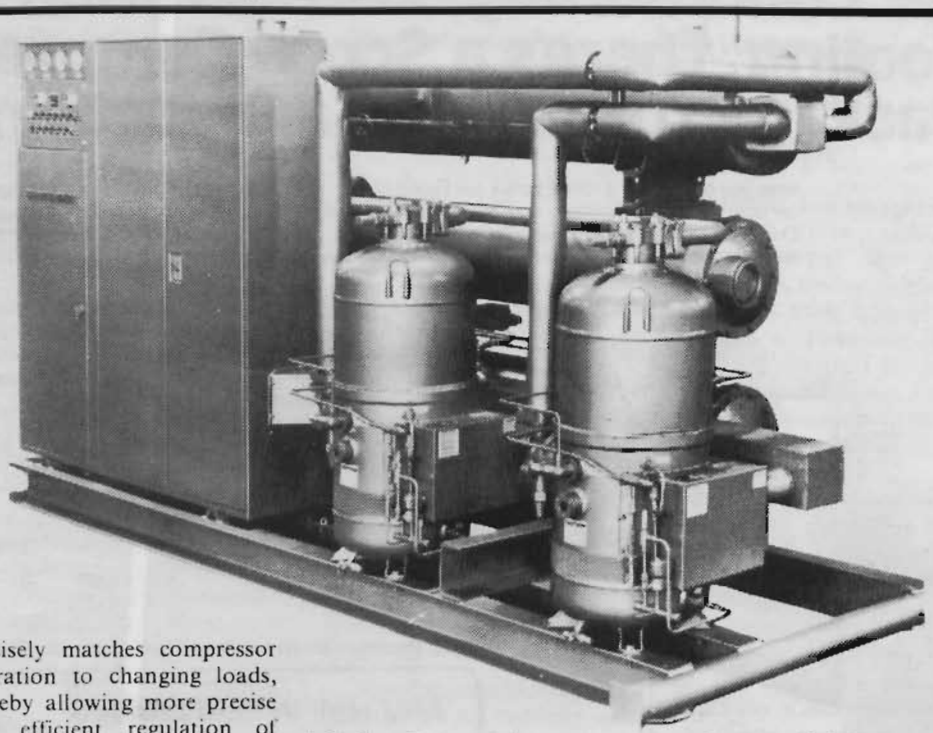
DOL, starters, speed regulators and soaker flanges are available to complement Powrmatic's extensive range of powered ventilation equipment.

## Liebert Environmental Control System

Walker Air Conditioning Ltd. are sole distributors in Scotland and Ireland for Liebert specialist air conditioning and power control systems required in computer suites and similar high technology environments.

They can now supply the latest option which has recently become available on the top range Deluxe System/3. This advanced unit was designed to achieve ultimate precision and reliability in control of the data processing environment.

This latest option involves locating valves on each of the unit's compressors, which respond to load changes in four steps. The cooling process precisely matches compressor operation to changing loads, thereby allowing more precise and efficient regulation of environmental conditions. The resulting benefits include reduced energy costs, tighter control of temperature and humidity, and extended compressor life. By using constant-speed, semi-hermetic compressors with Solenoid cylinder unloaders, the four-step Deluxe System/3 offers substantially higher energy efficiencies than those of competitive systems.

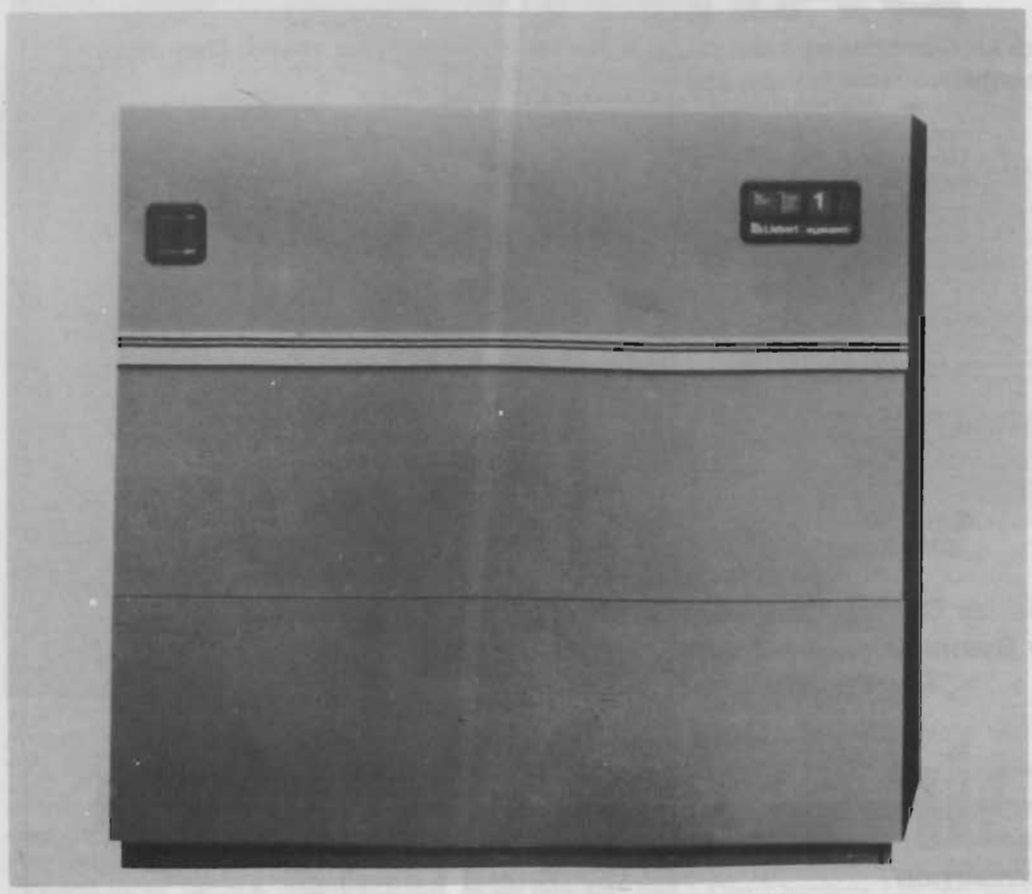


• *Dunham-Bush vertical screw compressor packaged liquid chillers from APV Hall.*

Standard features of all Deluxe System/3 units include a sophisticated microprocessor-based control system, highly reliable and efficient semi-hermetic compressors, A-frame coil design, infra-red humidifier, and Liebert-manufactured condensers and drycoolers. The four-step Deluxe System/3 is available in capacities of 8, 10, 15, 20 and 22 tons.

Liebert Corporation designs, manufactures and markets a complete range of environmental control, electrical power protection and centralised monitoring/control systems for data processing and related applications. The company markets its products throughout the United States and in 55 countries around the world.

Details from Walker Air Conditioning Ltd, Dublin Industrial Estate, Finglas Road, Dublin 11. (Tel: Dublin 300844).



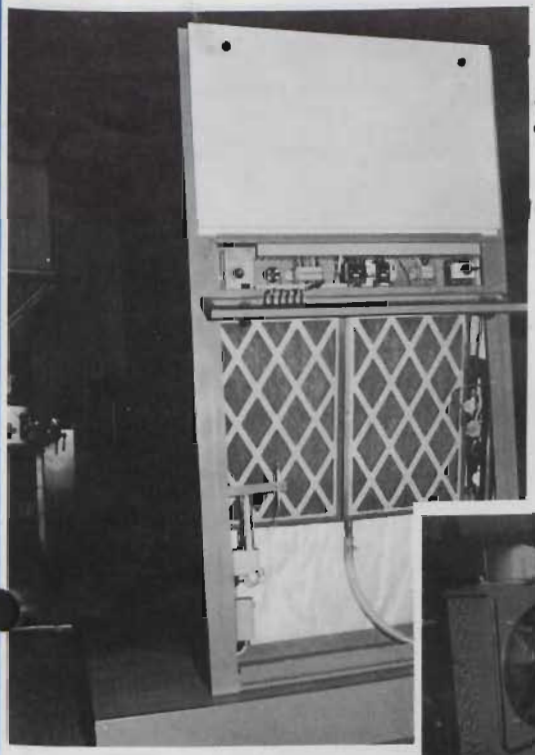
• *Liebert's Challenger 2 environmental control, from Walker.*

## Danfoss Temperature Control

J J Sampson & Son Ltd advises of a new Danfoss generation of electronic proportional integral temperature controls, type EKS67 + KVQ. The system can be used to advantage in supermarkets and cold rooms for fruit, vegetables and meat and many other applications where an accurate temperature

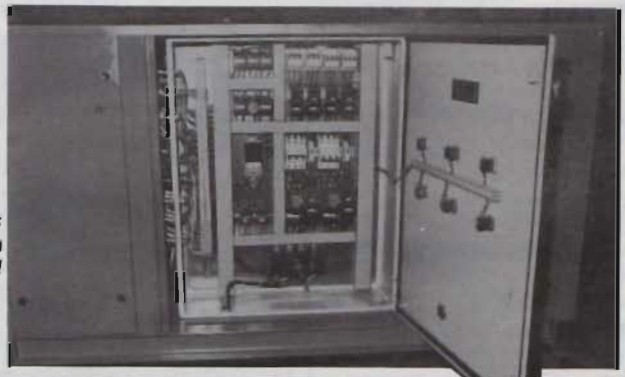

DOI: 10.21427/D7540P

# Reconair - The Irish-Made Alternative

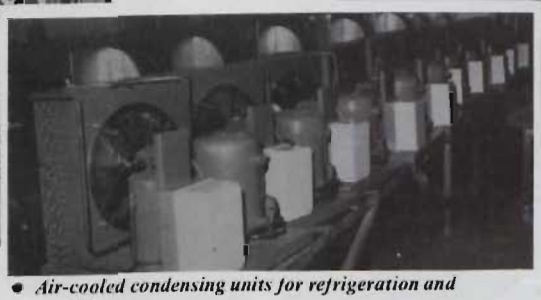


• *Left: Close Control computer room air conditioning unit.*

• *Right: Control panels to specification seen here fitted to packaged chiller.*



• *Right: Packaged 40-ton air cooled waterchiller.*



• *Air-cooled condensing units for refrigeration and air conditioning.*

In the short period of time that Reconair Manufacturing Ltd has been catering for the needs of the Irish marketplace, the company has gone from producing "replica" or similar type units to those being imported into the country to designing, manufacturing and installing systems according to the specific requirements of clients.

In the couple of years since its establishment Reconair Manufacturing has gone from strength to strength with the result that, by way of import substitution, the company has captured 30% of the air conditioning market. This achievement has been brought about by careful monitoring of the specific requirements of Irish clients and consultants and the subsequent design and production of products to meet that need.

Principally, there are five main sectors within the air conditioning industry that Reconair Manufacturing excel in serving. These are in the design and manufacture of (a) air handling units; (b) water chillers; (c) computer room air conditioning; (d) Air-cooled condensing units; and (e) Environmental control units.

## Air Handling Units

Reconair Manufacturing produce a complete range of air handling units of both the single and double-skinned variety. The number of options and variations is infinite with the capacity to design and manufacture to virtually any requirement presenting no problems whatsoever.

A special capability is the design and production of non-standard units for awkward positions and locations where the physical layout of a building presents constraints.

Every model in the range can incorporate a variable-speed motor and a heat recovery coil.

## Water Chillers

Essentially, there are two types of water chiller in the Reconair range — air-cooled and water-cooled. The standard range cover requirements served by anything from 3 tonnes to 120 tonnes with delivery on any unit in this category varying between four and six weeks.

The smaller end of the range incorporates hermetic type compressors while anything in the 20 tonne plus category uses semi-hermetic compressors. The maxiumum capacity on any one compressor is 30 tonnes which allows for the necessary element of standby on the machine.

The air-cooled chillers are designed with the specific intention of making servicing and maintenance easy and are of the low silhoutte type — no unit is higher than 2 metres. Another speciality, particularly for the export market, is the use of centrifugal fans so that the client can put the chiller indoors or in a basement and attach a duct on the machine.

The basic design parameters remain the same on the water-cooled chillers with the units modified to become water-to-water heat pumps giving primary water at 75°C.

## Computer Room Air Conditioning

The range of units manufactured for this sector varies from 9kw right up to 100kw. Both upflow and downflow configurations are produced and, unless a client specifies otherwise, the units are normally provided with DX cooling, electrical heating, dehumidification and all the necessary controls and indicator lights. Any number of varied designs can be provided depending on the client's requirements all of which carry such modifications as LED indication of temperature, filter condition, relative humidity and malfunctioning indicator covering both the compressor and refrigeration components.

All units in the range are compact in size and, where standard door space or other physical constraints prevent once-off delivery in one section, modular broken down sections are provided.

Delivery again is in the region of three to four weeks.

## Air-Cooled Condensing Units

Systems designed and manufactured for this sector are produced in a range of capacities varying between 5kw and 30kw and are suitable for use with R22, R12 and R502. All incorporate Maneurop compressors and when used on air conditioning systems are supplied with all necessary starters and MCB.

Weatherproof housings are also available for special applications and these have been designed so that they do not interfere with the condensor air-flow pattern.

In every sector of the market Reconair Manufacturing serves, any type of design configuration and variation can be met. In fact, the company is now beginning to devote a full working section of the plant to the production of these "out-of-the-ordinary" units.

A strict policy of sourcing all components in Ireland has resulted in the fact that over 90% of all materials used now originate from a home-based supplier. The remaining 5% covers parts that simply cannot be purchased on the home front.

Finally, and as a further assurance that the "marriage" of all components, design criteria and manufacturing processes has been successful, each and every item is fully tested according to original specifications and end-user requirements.

## Environmental Control Units

An area neglected by Irish manufacturers is the use of artifical environments by the chemical/electronic and computer industries in the testing of their products. Reconair Manufacturing Ltd. has devoted a large percentage of its effort to designing and manufacturing specifically to the client's requirements in this area. No standard units exist in this range. However, the units produced to date have supplied fluid at -50°C and air at a cyle of 20°C to plus 180°C. Every project is individually designed.

# Air Conditioning and Ventilation Equipment

control is needed, but dehydration must be avoided.

The EKS67 + KVQe ectronic system distinguishes itself from a mechanical temperature control system by being able to operate without an offset.

In the event of a sudden rise in product temperature, the electronics open the KVQ and reduce the evaporating temperature in the same way as a mechanical system, but a mechanical system by its nature must retain a certain error to be able to counteract the rise in temperature. The electronic system immediately begins to completely eliminate this error.

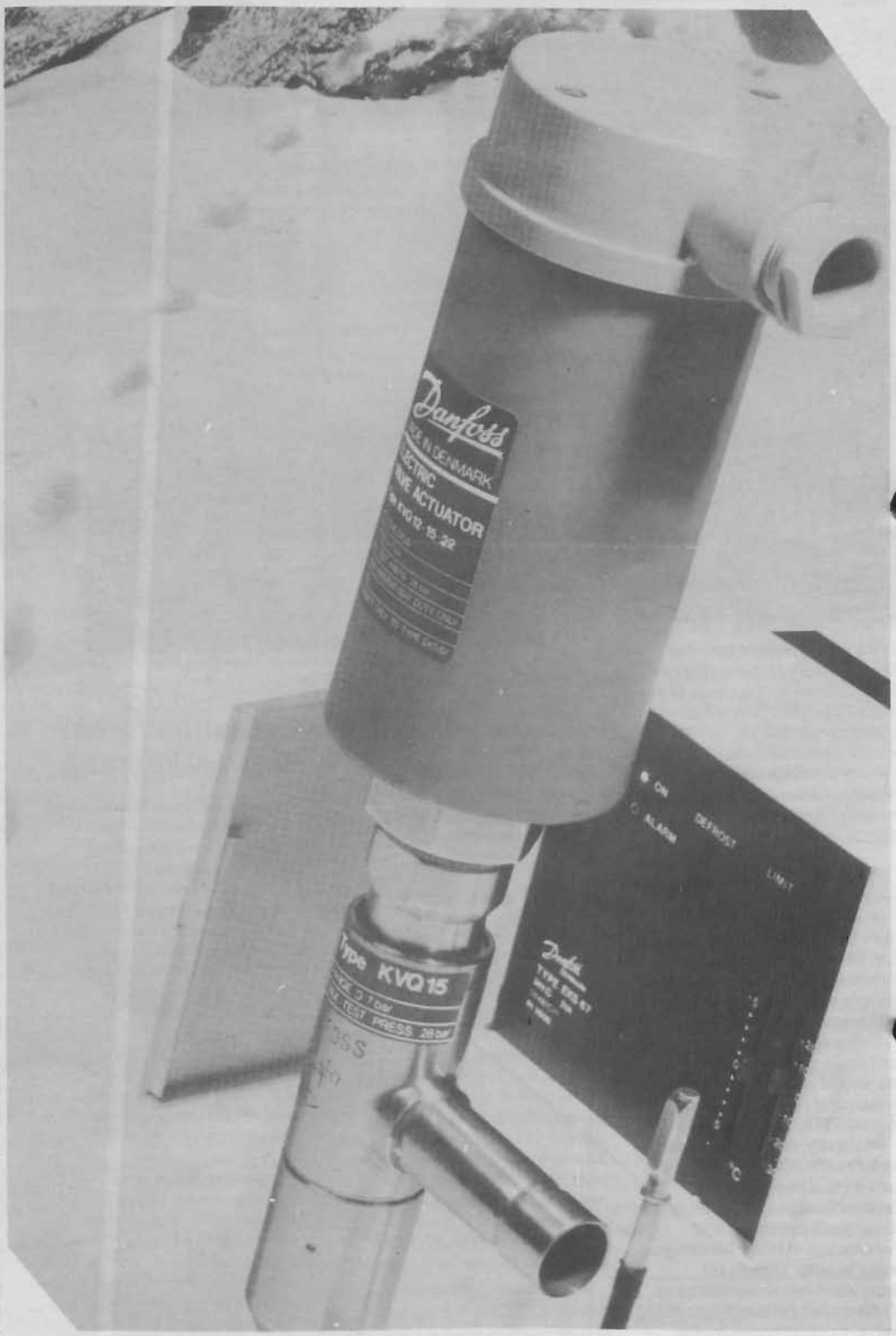
At the same time the evaporating temperautre is increased to a higher level than in a mechanical system, thus minimising the dehydration and improving energy consumption.

If the sensor temperature exceeds or falls below a set alarm limit (± 1 to ± 5°C) the regulator initiates an alarm signal ready condition. To avoid extensive service calls every time the case is overloaded (e.g. by over-filling) the alarm signal is delayed by a timer (setting 10 to 60 min). Within this period, "false" errors often disappear.

A separate defrost sensor can be located in an optimum position in relation to the evaporator, to ensure that the correct time for defrost stop is maintained. The temperature for defrost stop can be set in the range 0 to 25°C.

In systems with hot gas defrost, the KVQ can replace a solenoid valve in the suction line because during defrost the KVQ can be made to close completely. After defrost, the KVQ valve opens at a suitable slow rate to prevent liquid hammer.

Further information from JJ Sampson & Son Ltd, 71 Cherry Orchard Industrial Estate, Dublin 10.
(Tel: 268111); Telex: 92219.




• *Danfoss refrigeration controls lead the way in technology and quality.*

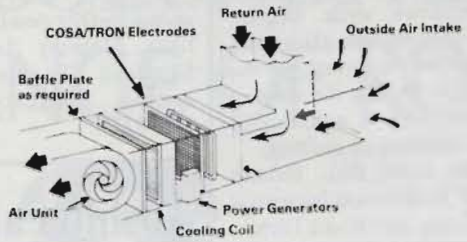
# TM Thermal Storage

Baltimore Aircoil has recently enlarged its products offering by introducing the new line of thermal storage units: the Ice Chiller TM thermal storage unit.

Ice Chiller TM thermal storage units are designed to generate and store cooling capacity for future use in applications where chilled water is used for comfort or process cooling. Particularly short term or batch cooling loads, as they occur in dairies or breweries, can ideally be handled by ice storage systems, reducing hereby the system first cost and energy cost. The basic ice storage system consists of an Ice Chiller TM thermal storage unit, a compressor, a condenser, a refrigerant expansion device and a chilled water pump. The Ice Chiller TM has a multiple serpentile evaporator coil submerged in an insulated tank of water.

The refrigerant system normally operates to form ice on the coil when no cooling is required. This usually occurs during night time when electricity rates are decreased. To ensure uniform build of ice formation, the water is agitated by air bubbles discharged from a low pressure distribution system constructed from heavy duty PVC pipe located beneath the evaporator coil. When the ice reaches design thickness the refrigeration system is turned off. When chilled water is required for comfort or process cooling and chilled water

## Cosatron Air Purification System




Controls dust and odours.

## Coldpoint Room Units

Cooling — Heat Pump — High Air Flow.

## R.C. Packaged Air Cooled Chillers

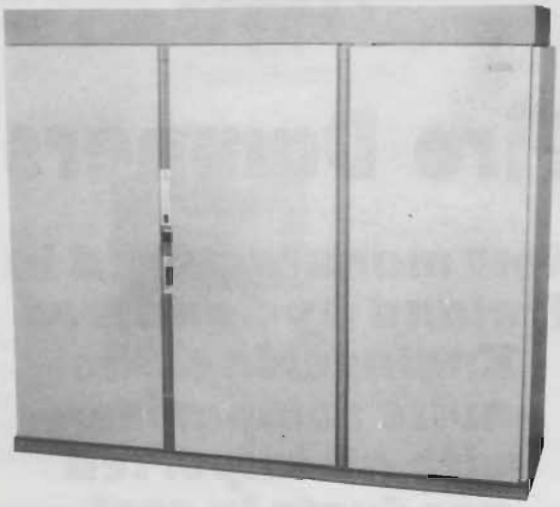
Full range 9 Kw — 558 Kw cooling capacity.

S
A C

# SHAMROCK AIR CONDITIONING LTD.

**Unit 4 Lilmar Ind. Est., Coolock Lane, Santry, Dublin 9.**
**Tel: 427069/427853.**

## Today's most advanced computer room air conditioning systems are now manufactured in Ireland — "Presenting Tech 80 Series Cooling designed for computers of the 80's".



**THREE-BAY SYSTEMS**
**Models 8033, 8035 & 8037**

Tech 80 Series
Cooling Capacity's 27.5 — 71.2 Kw Nominal

- ★ High sensible cooling capacity
- ★ Steam generating humidifier
- ★ Two-speed compressors
- ★ Status control panel.
- ★ Micro-processor control with digital display.
- ★ ECX economy cooling.
- ★ Hot gas reheat.

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- **Computer Room Systems**
- **Packaged & Split-Packaged Systems**
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circulating pump is started and the meltdown cycle begins. Warm water returning from and cooling load is cooled by the melting ice. During the melting cycle the tank is agitated to provide uniform ice melting.

Details from RSL Ireland Ltd, 48F Robinhood Industrial Estate, Long Mile Road, Dublin 22, (Tel: 508011); Telex 24818.

## Irish-Made From Sandford

Sandford Engineering must be congratulated for their efforts to conquer the Irish market. They have been manufacturing TIFEU fire dampers for just two years and in that time have made a very considerable impact on the home market. Sandford Engineering are very pleased with the response from architects and consulting engineers re their awareness to buy Irish. As everybody knows, Irish-made goods means badly-needed Irish jobs.

Sandford "TIFEU" fire dampers are wholly-manufactured at their Dun Laoghaire plant. They have been fire resistance tested for a period of four hours to British Standard 476: Part 8: 1972 and the International Standard ISO 834: 1975 and evaluated by the Institute for Industrial Research and Standards.

Sandford Engineering appreciate very much that without the assistance of the IDA and AnCO training schemes, their achievements would not have been possible. They are also now manufacturing multileaf control dampers and sound attenuators

A comprehensive catalogue giving further details can be had from Malachy Loughran at Sandford Engineering, Kill Avenue, Dun Laoghaire, (Tel: 806481).

## Toshiba aims high

Toshiba (UK) Ltd has announced the expansion of its range of room air conditioners with the introduction of several new models.

The first models to become available are space saving ceiling suspension and ceiling buried split-type heat pump units. Toshiba describes the new units as high-tech equipment of "the highest performance and reliability".

The ceiling suspension type models have a two-tone synthetic resin finish and are offered in five sizes ranging from 4.68kW heating.

Grilles on both sides of the unit deliver nearly 180° wide airflow to provide uniform cooling and heating. As autoturn louvre, available as an optional accessory, will change airflow direction 70° up or down as required.

The ceiling buried cassette split-type heat pump air conditioners are two way air direction units for installation at the centre of the ceiling. Offered in four sizes from 4.68kW cooling/5.27kW heating up to 10.55 cooling/10.90 heating, they are designed to provide cool or heated air.

Available from sole distributor, G.T. Phelan Ltd, 29 Coolhill, Sandyford, Co. Dublin. (Tel: 952234).

## Copper Cylinder Row Erupts

• *Continued from front cover*

manufacturer should follow suit and begin production of units with a similarly reduced wall thickness than hitherto.

How long the remaining manufacturers in this sector, including the market leader, can afford to see their market share eroded without taking similar action remains to be seen. In the absence of any clear legal obligatory directive to comply with the relevant contents of IS 161 1975, it seems only a matter of time before they are all involved in the fray.

The net result for the copper cylinder industry as a whole will be disastrous and it will also reflect on the entire services sector to the domestic market in this respect.

The only bright spot on the horizon is that IS 161 is set for review and hopefully the amended version for 1986 will incorporate more teeth and thereby the muscle power to keep the supply of unsuitable cylinders off the market altogether.

# THE COLCHESTER RANGE OF ROOF UNITS

WOODS

**LEXDEN type DSM**
Side discharge. Powered by Woods mixed flow fan units. Seven fan sizes. Air volumes up to 9.2m³/s.
**Publication RU25.3.**

**LEXDEN type DVM**
Vertical discharge. Powered by Woods mixed flow fan units. Five fan sizes. Air volumes up to 8.3m³/s.
**Publication RU25.4.**

**BRAISWICK type DSP**
Side discharge. Powered by Woods GP propeller fan units. Ten fan sizes. Air volumes up to 7.2m³/s.
**Publication RU25.1.**

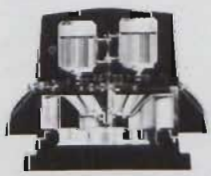
**STANWAY type BSM**
Side discharge. Powered by Woods belt-drive mixed flow fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 10.0m³/s.
**Publication RU25.5.**

**DEDHAM type BVC**
Vertical discharge. Powered by Woods belt-drive centrifugal fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 10.3m³/s.
**Publication RU25.10.**

**STANWAY type BVM**
Vertical discharge. Powered by Woods belt-drive mixed flow fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 9.6m³/s.
**Publication RU25.6.**

**BRAISWICK type DVP**
Vertical discharge. Powered by Woods GP propeller fan units. Eight fan sizes. Air volumes up to 9.2m³/s.
**Publication RU25.2.**

**BERGHOLT type DSC**
Side discharge. Powered by Woods centrifugal fan units. Seven fan sizes. Air volumes up to 10.6m³/s.
**Publication RU25.7.**



**DEDHAM type BSC**
Side discharge. Powered by Woods belt-drive centrifugal fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 10.8m³/s.
**Publication RU25.9.**

**BERGHOLT type DVC**
Vertical discharge. Powered by Woods centrifugal fan units. Six fan sizes. Air volumes up to 9.7m³/s.
**Publication RU25.8.**

For further details contact:

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**HEAD OFFICE 15-19 Hendrick St. (off Benburb St.), Dublin 7.**
**Telephone: 775413/775882. Telex 25658.**

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Washington Street, Cork. Telephone: (021) 23367

**Galway**
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**Limerick**
Dock Road, Limerick. Telephone (061) 317666

**Dundalk**
Long Walk, Dundalk, Co. Louth. Telephone: (042) 35501.



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